



#### **EDITORIAL**

Welcome to a celebratory issue this month: ISSUE 034 of 3DCreative Magazine. Why are we celebrating? Well, it was but 12 months ago that we were quietly basking in the glory of victory served to us in the Dominance War II Challenge, and well, what can we say this year ...? We've only gone and done it again, can you believe?!! That's right:

3DTotal saw victory again this month when the results flooded over to our twitching eyes direct from the man himself, Mr. Fredrik Hultqvist (founder of the Dominance War). Last year's DWII article was simply fantastic, but this year we decided to go one step further and, as well as featuring the Dominance War III Story and Winners' Galleries, we bring to you a 3DCreative-exclusive interview with Fredrik, just for you guys! Check out PAGE 034 for the complete story - beginning to end, and I dare you not to be impressed with the sheer quality of work produced in this year's War!! This issue is pretty jam-packed and I've been told by the designers not to waffle this month, so I'll guickly point out a few of this month's highlights... Check out our interviews with the up-and-coming talents of Concept Artist and Digital Sculptor, Jelmer Boskma (PAGE 015), and with the fantastic Antonio Jose Gonzalez (PAGE 026), whose skill set includes pretty much every 3D package under our glorious Sun! You'll find plenty of talent and skill in this month's interview pages, not to mention our catch up with Fox3D Studios, who, with over 11 years' experience, have knocked up an impressive list of work on titles such as Hellgate: London, Fallout 3, Killzone 2 plus plenty more (PAGE 008)! Our Making Ofs this month include the humorous works of Guido Zatti, along with the car modelling and rendering skills of Pâşlea Paul and Arturo Garcia in our three fantastic Making Ofs. Our good friend Wayne is still going strong in Part 5 of his ZBrush series, and our car modelling tutorial series reaches the materials section in the penultimate episode of the 7-part series! And if you've ever longingly looked at your 3D models and wished they would spring to life... turn to page 063 to find out how your wishes could very well come true, in our 3D Printing special article! So go on, enjoy another fun-filled issue from 3DCreative!! \*winks\* ED.

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Antonio Jose Gonzalez Character Modeller for Mercury Steam

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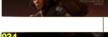












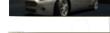


















































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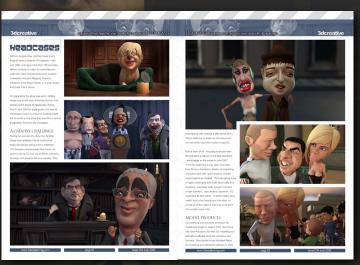
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If you're having problems viewing the double-page spreads that we feature in this magazine, follow this handy little guide on how to set up your PDF reader!









### **CONTRIBUTING ARTISTS**

Every month, many creative and talented artists from around the world contribute to 3DCreative Magazine. Here you can read all about them. If you would like to be a part of 3DCreative or 2DArtist Magazines, please contact lynette@zoopublishing.com.

Our new car modelling tutorial series,
Bugatti Veryon, brings a group of
new talented artists to 3DCreative
Magazine. These wonderful people
are responsible for creating our 3ds
Max, Cinema 4D, LightWave, Maya &
Softimage XSi content this month!





#### ALI ISMAIL

is a 3D artist who
has worked on
everything from
Hollywood movies to
TV commercials to
games. He started out
by doing the first 3D



games in Jordan, then freelanced to clients such as Microsoft and VW, and has also worked for ILM on projects such as Indiana Jones and the Kingdom of the Crystal Skull whilst at Lucasfilm Animation Singapore.

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#### Brendan McCaffrey

is a digital artist
and designer who
does a variety of
work, ranging from
presentation and
promotional art for the

games, automotive and product industries, to lighting and rendering for animation and FMVs.

He is currently based in Las Palmas, Gran
Canaria, Spain.

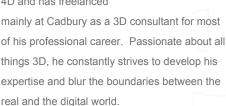
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#### EMLYN Davies

is a 27 year old freelance 3D artist, based in Birmingham, UK. He has four years experience in Cinema 4D and has freelanced



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#### Krisztián Szeibold

is a 3D Artist living in Budapest, Hungary. In 2000, he started using 3D software such as 3D Studio R4, and later 3ds

Max and Maya. He's currently working as a 3D Artist on post-productions and commercials with Softimage XSI and Fusion. He hopes that he's going to be able to work on feature films in the future.

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#### Vojislav Milanovic

is a 27-year old 3D generalist from Banjaluka, northern Bosnia. After a great time in Australia he went back to his



homeland to pursue his career as a 3D artist and lecturer in a Multimedia Design College.

As much as he likes learning new things, he also loves teaching others. Amongst other stuff, he enjoys photography, drawing, painting and sculpting. http://www.vojislavmilanovic.com/

vojo@teol.net



#### JELMER BOSKMA

is a Creature Designer and 3D Modeller, specialising in the development of creatures and characters for film and

TV. After his graduation from the Vancouver Film School, Jelmer has worked on various feature films and creature related projects. His recent work can be seen in the first 3D Live Action Adventure film, 'Journey to the Center of the Earth 3D'. http://www.jelmerboskma.com/





#### CARLOS ORTEGA

is a 26-year old graphic designer and has been working in 3D for about 4 years. He's currently working in the TV



department of Guanajuato University doing graphic design and 3D animation for TV spots and documentaries. He's also a multimedia freelancer and a shortfilm hobbyist with a production house called TG Productions. http://www.zigrafus.com.mx strogg\_tank@hotmail.com



#### Wayne Robson

is a very successful freelance digital sculptor living in Durham, England. Wayne is currently dividing his time

between work on an upcoming creature documentary and his upcoming extensive book on ZBrush for Wordware publishing. Wayne's best selling DVDs on ZBrush and Mudbox are available through Kurv Studios.

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#### ARTURO GARCIA

is a freelancer living in Mexico, with 2 years experience in modelling cars. He uses 3ds Max software, and his goal



is to make models become as real as possible – even confusing them with what is real! http://dessga.cgsociety.org/gallery dessga@yahoo.com.mx



#### GUIDO ZATTI

is a 3D Artist from Treviso, but now works in Parma for the post-production society, TaxFreeFilm, where he works for

national and international commercial TV. He specialises in modelling, texturing & lighting. He's 29 and uses lots of software, but principally 3ds Max and ZBrush. He studied at art school and loves drawing and modelling with clay.

http://www.guidozatti.cominfo@guidozatti.com





#### Guy Zinger

is 27 years old and lives in Petach-Tikva, in Israel. He's worked as a Graphic Designer at an advertising company, since



learning 3ds Max 2 years ago as part of his animation studies. He is still mostly self-taught and is still learning today. He's also finished his final project for school – a short animation that has got a lot of good feedback, and these days he is working on his showreel.

guyzinger@gmail.com

www.3dcreativemag.com

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"FINDING THE RESOURCES TO CREATE A SPECIFIC ELEMENT OF A GAME CAN OFTEN TAKE LONGER THAN THE TASK ITSELF"



Fox3D Studios is a game art development studio based in Estonia. The small team consists of a diverse group of experienced professionals, who are dedicated to creating high quality artwork for the games sector. Previous credits include Fallout 3, Brothers In Arms: Hell's Highway, Hellgate: London and Mass Effect ...

## estudios OH30

First of all can you tell us a little about how Fox3D Studios came to be formed and your motives behind starting the company?

It wasn't a decision made in one day, that was for certain; it was the culmination of several years of freelancing, art managing, building contact lists and securing clients. I began as just a hobbyist and went through each progressive phase myself before I realised that I had enough clients and contacts to be able to start raising my own child - Fox3D Studios. I was always looking for something new and fresh in my day-to-day jobs and I believe this is the



main aspect of my personality that helped me to form my skills into something bigger. Once I began to feel that just being an artist wasn't enough, and that I needed more interaction and drive, I started to provide QA services to some of my talented fellow artists and offer them



assignments from my clients. As it turned out, this was only the beginning. I started to involve more people and build internal structures based on the different skill sets and abilities of the artists I connected to - and this is exactly what I continue to do today.



People believed in my skills while I was a freelance artist and I think I've further proved that I can guarantee them quality, even if work is not made by me personally.

Having all the experience and contacts in the game industry, I had the perfect foundation to start my new company and I was lucky enough to be able to do it smoothly. I'm now working with really talented artists, providing QA and creative directorial services at my own studios and it's just amazing... It wasn't my aim to make a company; it just formed by itself. I guess luck prevailed.

Your job seems has shifted from that of an artist to more of a managerial role. Do you ever find that you miss the creative aspects of freelancing and do you think you would like to work on your own game ideas? Or does the whole notion of a long incubation period of development sound daunting?

Actually I work on some of my own projects from time to time too. To put myself into the role of the artist really helps me to communicate and understand the needs of the other artists that I work with. It's also great fun to have minimal or no communication sometimes, and to feel



myself in the calm artistic universe while being backed by some hardcore music. I love variety in my work, so being only a manager would kill me for sure... As to the second part of your question, yes, I think about my own games from time to time and I do have one really nice idea in mind... but it's a bit too soon to let people know about that!

It would seem as though your company is essentially an "Art Department" for hire. What do you feel are the main reasons why there are demands for such a niche market nowadays?

We mostly work in game industry, so I will be talking about that market mainly. We know that there are tons of games that are being developed at this very moment and there is always an opportunity that some game developer would like to speed up the process of development for some reason. No matter what the developer's objective or aim - whether to achieve the best results possible for some investor or publisher - we are always ready to help. We have the artists, the knowledge and we're always ready to start immediately.



You don't need to increase the number of full-time workers for the short-term goal and we know how it can be really difficult to find the right candidate for immediate work. Finding the resources to create a specific element of a game can often take longer than the task itself. When you sub-contract some part of your work to a studio like Fox3D, you can be sure that we are motivated to provide amazing results because we're aware that there's such strong competition in the shape of other such "Art Departments for hire". We also make sure that we complete projects quickly and efficiently so that we can receive compensation. There is no other way to fulfil the client's objective but to produce a high-quality piece of work within the given time-frame.

If we are talking about small clients, there are some studios that do not have a stable art subdivision in their structure and they hire workers from project to project to save money, trying to occupy their time in between projects. It is







much easier and faster to hire someone who can provide everything in one bottle: a team of artists that can provide every type of artwork.

Then the client keeps this contact until the next project and there are is a greater chance that they will have the same team and quality again.

If we are talking about big clients and huge projects, the game art becomes more and more complex and the demands and quality are higher. Standards have risen dramatically lately, so sometimes it is just impossible to find the required number of great artists in the same area of the world where the game developer

decided to start it's company X number of years ago. If there is no possibility of building more offices in other areas, then there are two options: to relocate the necessary number of great artists or just to make them work externally or remotely. Relocation is a really complex process and really is a tough job in itself, so it is much easier to build an internal department that controls outsourcing. I believe these are the main reasons why we have a steady stream of work coming in.

Do you find that you attract developers of particular genres? And do you ever turn down work because it may not suit the company profile or skill sets you have nurtured?

I can't define any particular genre that we usually work on, but we are much more into realism than cartoonish styles. Speaking about the skill sets of our artists, I can assure you that we can handle every type of game art and we never turn down work because it doesn't suit our style, although realism is definitely our forte.

Your website states that you have 15 full-time employees. Can you give us a breakdown of the



key roles they fill, how the team is divided and how tasks are allocated?

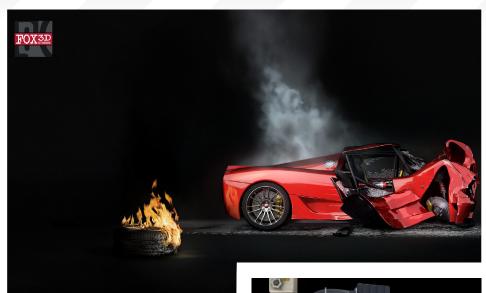
We have two 2D artists, three character modellers, two environment modellers, three animators, three texture artists and two leads: Lead Texture Artist - Den Fox (the one who is talking to you right now!) who is also responsible for creative direction and Lead Modeller - Fabricio Torres (one of the craziest

modellers in the game industry; his Gorilla Bust speaks for itself). We perform all the QA work, management of assets and all the rest to make sure workflow is as smooth as possible. We didn't have separation between the modeller and texture artist positions before. Everyone was an "all-purpose" artist and that was great for PS2 type games. But once we started to work on Next Generation titles with Unreal Engine 3



technology we felt that it was the right time to change this common organisation model. The amount of work that every object required gave us a great opportunity to separate tasks further. We really feel now that this kind of separation increases the quality and speed of the work on complex assignments - I would say by 30%. So that really adds to our competitive prices!

Once we receive the task from the client it goes to one of the lead artists and he prepares the task for the specific artist so that everything is as clear as possible. Then it goes through all the necessary stages of development, being reviewed and approved with every stage





before it goes further. At the very final stage of development we review it one last time and then it goes to client with the Seal of Approval.

Depending on the client's needs, they may also review our work at every stage, which is good as well, and guarantees the fastest and best result.

### What proportion of your work is dedicated to 2D artwork?

Clients usually like to prepare reference material and sketches at their end and use our services purely as a 3D development resource. So we usually use our 2D artists to help out in the texturing process. I would say that 2D artwork is about 5% of our everyday tasks.

In the list of projects you have worked on I notice that there are quite a number in which you mention "material setup". Can you explain what this involves?

That is what I would call a texture artist now - a material artist. Some objects that we develop for the Unreal Engine 3 have a really complex material setup, so it is not only about making the

Interview FOX3D STUDIOS

diffuse map now but making the full set of maps like: Diffuse, Specular, Glossiness, Reflection Mask, Emissive, Normal etc. and combining these through the Engine material options to make the object look just right in the game. It is mostly about realistic types of games, where we need to achieve the same effects on surfaces as we would expect to see while interacting with the object in real life.

### What have been the most demanding projects to date and why?

I think *Killzone 2*, which we are currently working on, and *Aliens: Colonial Marines*. Mostly because of quality standards and the complexity of assignments that such projects demand. Complicated projects like these are great; the more time we spend on a particular object, the better we nail our work and the greater sense of satisfaction we receive - this all helps us grow as artists.

## Do you use any freelance artists at all to help meet deadlines?

Yes, and that really helps. We not only use separate freelance artists, but when the scope of the project is too big, we will also collaborate with other studios. Most projects we can handle with our general team though.

How easy or difficult is it working with not only development studios, but freelance artists and other companies such as yourself? Can liaising between all three become problematic?

Usually it is a pain in the ass, but that's top secret - don't tell our clients! No, I'm only kidding; actually, I think we managed to stream the process of development and outsourcing quite well, so once we need this additional force we use it and feel really comfortable. Lead artists' work is far more concentrated on such occasions though.

Estonia is an interesting, if not unusual, location to be based. What are the advantages of being there from both an employment and social point of view?

I know just two studios that provide this kind of service in Estonia. I think the reason is that we are very small so it is pretty hard to find talented artists here. But we have good connections with Russia, Ukraine and Lithuania - all the old Soviet Union countries. This area has really competitive man-hour costs, which is the biggest advantage I think. Also, our location really helps us to utilise the resources from this area very effectively. Being part of the European Union helps to make business easier here too.

### Have you any ambition to branch into the film sector at all?

Yes we would certainly like to, and the closer game art becomes to film quality art, the more we think about that. Games are great and it is a lot of fun to work in this sector, but I know that most of my artists would prefer to work on something that shows their skills in the best light and to amaze people even more. Really, sometimes it hurts when you see one of your characters or objects in a game once it's received all the changes needed to fit in with the real-time game restrictions. But we will definitely want to stay in game industry as well, so there will probably be a mix of both in the future.



#### DEN FOX

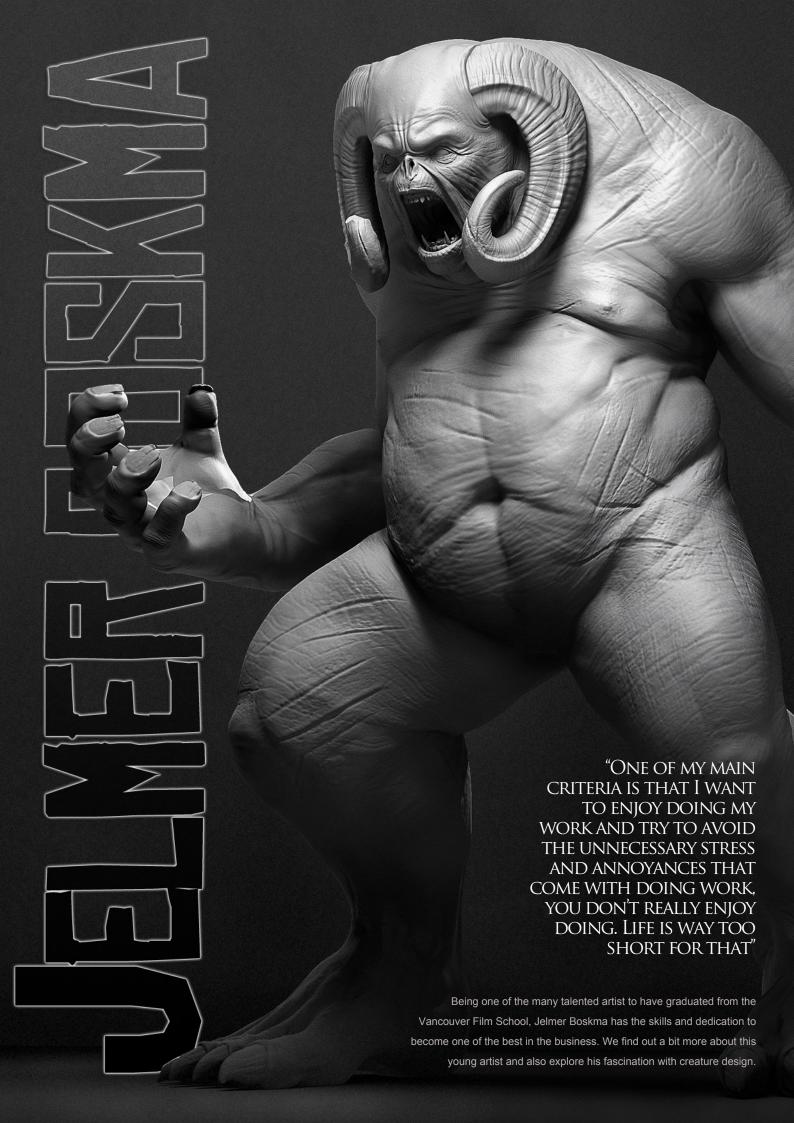
For more work by this artist please visit:

http://www.fox3d.com/

Or contact them at:

fox@fox3d.com

Interviewed by: Richard Tilbury



## JELMER BOSKMA

Hi Jelmer, could you introduce yourself to our readers and tell us a bit about yourself please? Hey Chris, thanks for having me! My name is Jelmer, born and raised in the Netherlands and now working as a creature designer and digital modeller in the entertainment industry. Since my graduation at the Vancouver Film School, I have been involved in several film projects, working both as a designer and as a 3D modeller.





Looking over you portfolio, you have created some amazing looking creatures. How did this fascination with this type of creature start, and what sort of research do you do when you're creating them?

I am afraid I have no clue who or what is to blame for my fascination with creatures. I have been drawing Ninja Turtles and monsters since I was a kid really. When I started learning about the true art of creating creatures on film I got sucked into it right away. I really enjoy the feeling I get when I can call something done and there's a creature there. A creature that people can look at, and hopefully enjoy looking at, that came from my mind and started from a blank piece of paper. To keep myself inspired, I constantly look at the work of my creature art heroes and the films in which their work appears. Their work excites me, but also puts my feet firmly on the ground by making sure I realise there's still a long road ahead for me! [Laughs]. Once the main idea is there, I look for photographs as reference points. Bats, lizards, horses, seals, humans, snakes... etc. There's a lot of reference material available on the Internet, but I also hold a fair collection of books filled with all kinds of curious creatures on this planet.

Is there any creature that you would like to recreate and add your own twist to?

Not specifically. But since I love making scrawny, gnarly creatures for some reason, I think I would enjoy doing a version of the evil house elf "Kreacher" from *Harry Potter and the Order of the Phoenix*. Simply because the character has so many of the characteristics I like to put



in my own work. He is a rather mysterious creature. He's not completely evil, but definitely not friendly. Slightly twisted and a bit dark-sided. Very little amount of body fat, so there's a lot of interesting shapes to play with in his physique. Perfect ingredients!

You've worked on a few big named films in your short career, but one stands out more than most: Watchmen. Could you tell how what your involvement was on the production of this film and how did you land this position? Watchmen is a project I hold very dear. Although my involvement on the project was very minimal, it truly opened my eyes to where I wanted to go. For Watchmen I worked on earlylook development tests and pre-vis modelling. The cool thing about the whole experience was that we got to work in the hectic environment of the production office in Vancouver, where the sets were built and the art department was located as well. The work I was doing myself was nothing to write home about, but seeing the work coming out of the art department did excite me. I realised there that the work I was doing wasn't what I wanted to do for the rest of my life. I wanted to design and sculpt creatures as much as I could. There's plenty of cool work out there for a select few fortunate artists. I wanted to see if I could get myself into such a position. That's the goal I set for myself, right there on the Watchmen set.

Are you a big fan of these superhero-type films and if so, which one would you like to have worked on?

I am by no means the biggest fan of superhero films, but I did very much enjoy *Batman Begins*. I guess if you'd let me make Hugo Weaving's character "V" from *V for Vendetta* a superhero, then those are two of the superhero films I liked best. Both films lack creatures though, booh! If I had to pick a superhero project that I would liked to have worked on, it probably would be Guillermo Del Toro's *Hellboy*. Amazing creature design work in there.





I noticed you mentioned you're starting work on *The Hobbit*. Could you give us any insight into how this is progressing or is it all "Top Secret"?

I'm afraid you've been reading my website a little over-hastily! *The Hobbit* is one of my favourite books and I am just very excited to see it getting made right now. My involvement at the moment is absolute none though. The last rumour I picked up was that sadly production had stalled because of the writer's strike in California.

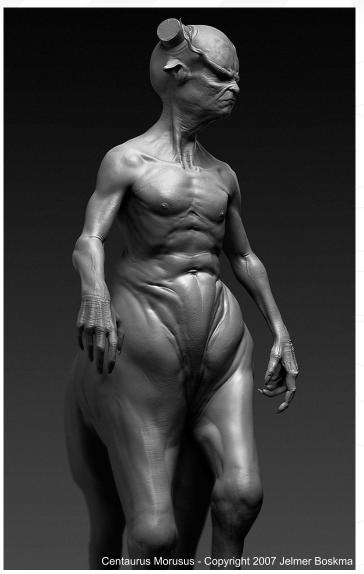
Okay, so I must have misread it! But if the opportunity arose, would you like to work on it?

[Laughs]. Obviously! Though now I've said that out loud it won't happen!

#### So what are your plans for the future?

To work on as many cool projects as I possibly can and hopefully grow as an artist. I've certainly got a much better idea of the things I enjoy doing, and the things I don't enjoy doing as much. Pushing my design work and getting my name further out there as someone who can help to





develop new creatures for films is the main goal for now. Whether I will work from my home studio or have to travel somewhere to work inhouse is something I will leave open. I enjoy the fact that I can't plan anything three weeks ahead, because opportunities come and go constantly. One of my main criteria is that I want to enjoy doing my work and try to avoid the unnecessary stress and annoyances that come with doing work, you don't really enjoy doing. Life is way too short for that.

#### Which artists inspire you?

The artists that I get inspiration from are very well known and have been exciting me with their work since long before I knew their names. Crash McCreery, who was most recently responsible for designing the character of "Davy Jones", who you've probably seen in the last two *Pirates of the Caribbean* films. [Laughs]. He's one of heroes - mainly because he works in pencil so much still. I think that's great, particularly in this era where almost everyone is mainly working digitally. Also on top of the list are Carlos Huante, Aaron Sims, Steve Wang, Christian Alzmann, Rick Baker, Neville Page, and Miles Teves. All of these guys share one thing and

that's a great eye for great shapes. I get excited just by looking at their work. The forms, the rhythms and the creativity that I find in the work of these guys is something truly inspiring and hard for me to explain in words.

### How do you normal spend your time away from the computer screen?

When I am not at a computer screen I am either sketching or hanging out with friends and family. Even then I tend to go out and get them to watch movies with me! [Laughs]. Most of my friends can be very critical when it comes to watching films. I found myself on numerous occasions, defending Peter Jackson's *King Kong* against the general opinion that it was an improbable story filled with unlikely creatures. The film's a masterpiece and the creatures in it have the leading roles for me. But I digress... I'll praise the day when I will be able to work on something my friends will like. Because then I am sure I did a good job!

It has been a really cool talking with you, but one last question before we wrap things up. What has been the most influential piece of advice that you have been given and who or where did it come from?

I see you've saved your hardest question for last. I don't think I can call up one particular word of advice that has influenced me the most. It's a combination of thoughts, images and advice which are influential for me. It can range from eye-opening conversations with fellow students at school, to studying the work of some of the artists I named earlier. It's hard for me to forget something if I find it useful or interesting. On the other hand I've got a horrible memory for almost everything else! [Laughs].

#### JELMER BOSKMA

For more work by this artist please visit:
http://www.jelmerboskma.com/
Or contact them at:
3d58jelmer@vfs.com
Interviewed by: Chris Perrins







## AN MATON HOR. 5

The Online Animation School

"Getting to spend my day creating peformances and bringing characters to life is so incredibly awesome, and I can't believe I get to work on such a cool project straight out of school. I'm so glad I had the opportunity to learn character animation in such a challenging and supportive environment."

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## ATTONIO JOSE GONZALEZ

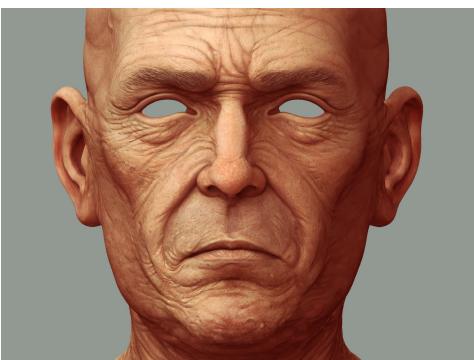
Hey Antonio! I've just been whiling away some time on your site http://www.budathome.com/, and I can see a lot of amazing images but not much detail about the creator! So can you tell us a bit about yourself please?

Well, I was born in Cádiz (a very nice place in the south of Spain) 33 years ago. My growth as an artist is very similar to many other artists; I started to draw at a very early age and soon after I was playing with my father's oil colours (he's a traditional painter). My relationship with digital art - specially with the game industry - was late and, in fact, accidental. In 1999, I created a company called Nebula Entertainment, together with a few friends. We developed a game called *Resurrection: The Return of the Black Dragon* for the Spanish company Dinamic Multimedia.

Some years later, I moved to Madrid and joined Pyro Studios, where I worked on *Commandos Strike Force* with my friend Daniel Moreno (who was interviewed in issue 30 of this magazine).







Currently I'm working as a character modeller for the company Mercury Steam, creators of Clive Baker's *Jericho* game.

So you created a company and made you own game! That's an impressive start to a CG career, was it a success?

Well, beginnings are always difficult, specially in countries like Spain where the video game industry is not as consolidated as it is in the

United Kingdom or other European countries. Besides, we began developing video games with a very modest budget and with very few staff (just note that the associates were all artists and business administrators at the same time ...) So to sum up, we were quite far away from the AAA productions.

If you take this into account, it was not bad at all: especially in the graphic aspect. The most

positive part for me, apart from the experience itself, was the chance to introduce myself to the video game industry (as well as the chance to train myself as a professional). It was a very hard road to run, because most of my training was self-taught. I can remember in those days, we had no access to the huge quantity of useful information we have now (i.e. video tutorials or forums, where many issues can be solved). You could say that I learned the hard way and in that sense, it was a total success.

You list a lot of software packages in your skill set. Why have you mastered so many applications (XSI, Maya, 3ds Max, Silo and Modo) when some would say they can all achieve a similar result?

Well, the first reason is fun. I love testing 3D software packages. To be honest, I'm not an expert in all of them. In my work I used 3ds Max, Photoshop and Zbrush as combo programs. On the other hand, my personal works are made, mainly, with XSI or Maya. I do this as a way to learn, as well. I think the use of several









programs opens your mind. It gives you the chance to find new tricks or general solutions that can improve your artistic and technical skills.

Do you find yourself saying all the time "I wish this package could do this" or "This feature is nowhere near as good as in another"?

Yes of course, but those defects are compensated for by some other virtue of the software. While it would be great to find it, the "definitive" program simply doesn't exist. There will always be certain features that one program will do better than another. However, if you're determined then you can learn how to use lots of different programs and therefore be able to access all of their best features.

#### ANTONIO JOSE GONZALEZ Interview

All of your characters look like they have had sculpting details added, which must be where ZBrush and Mudbox come into your toolset. Can you tell us more about this part of the process?

I find that focusing on details, in a baroque or preciosist way of working, is really satisfying. Most of the time that I invest in the whole process is spent on the detailing and I also consider it the most important aspect as I don't elaborate the base mesh too much. I work with ZBrush3 now, but I have used a lot of Mudbox as well. Both are terrific; it's just a matter of choice. As I have said before, I normally start with as basic a mesh as possible, including good loops, topology and distribution. Next, I centre on subdivisions and details, using every subdivision up and working from least to most until I finish the model.







If you don't have good loops or topology right from the start, what problems can an artist run into later on?

Well, that's a difficult question; normally you experience the problems when you're shaping, and each person has a different way of working. That's a personal choice. I believe the biggest problems that you can experience are related to triangles. When you subdivide the mesh, you can find peaks and tensions hard to solve, which can effect the final mesh aspect. Another common issue is to find that a mesh is too dense before being exported to ZBrush or Mudbox. Personally, I prefer to work with very simple mesh bases because they are much more handy, especially when you have to modify the pose of the model.



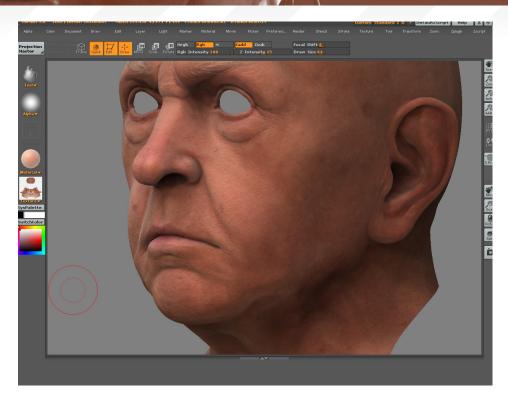
You can also encounter problems if your mesh has areas with a high density of polygons, while some other areas in the same object have little density. When subdividing, you are going to find zones where a greater concentration of polygons is going to be needed. And it's likely that your machine is not going to be able to make a new subdivision; that makes it obvious that zones without definition exist, impoverishing the final result. Time to subdivide the mesh.



#### ANTONIO JOSE GONZALEZ Interview

We loved your "Mr.Quixote" image here in the studio. I remember when we had a meeting with our publisher for *Digital Art Masters: Volume 2* and she was looking at it, saying "That would look amazing on the cover. But is it too scary!?" Can you tell us more about the ideas and development behind this image?

Of course, it is scary... but that is the work's intention. The references to El Quijote don't imply any objective connection with Cervantes' character. It is more a sort of a tribute, focusing on the fact that the character is a madman. The static and central composition is slightly based on El Greco's *The Knight with His Hand on His Breast*, but is inspired in general by the work of the great painters Caravaggio (tenebrist or murky illumination), and Velazquez (colour palette). Many key factors were used to achieve that "scary" feeling. For example, I made use of







pictures of Dalí for the crazy look (he knew how to play with his face to get a madman look). The fact that his look, together with a light stoop of the head are the only dynamic elements in the composition, is not accidental.

I think those details help to give a general oppressive touch. The closed and poorly lit room, and the blocked-up windows generate (I hope!) a certain restlessness in the viewer.

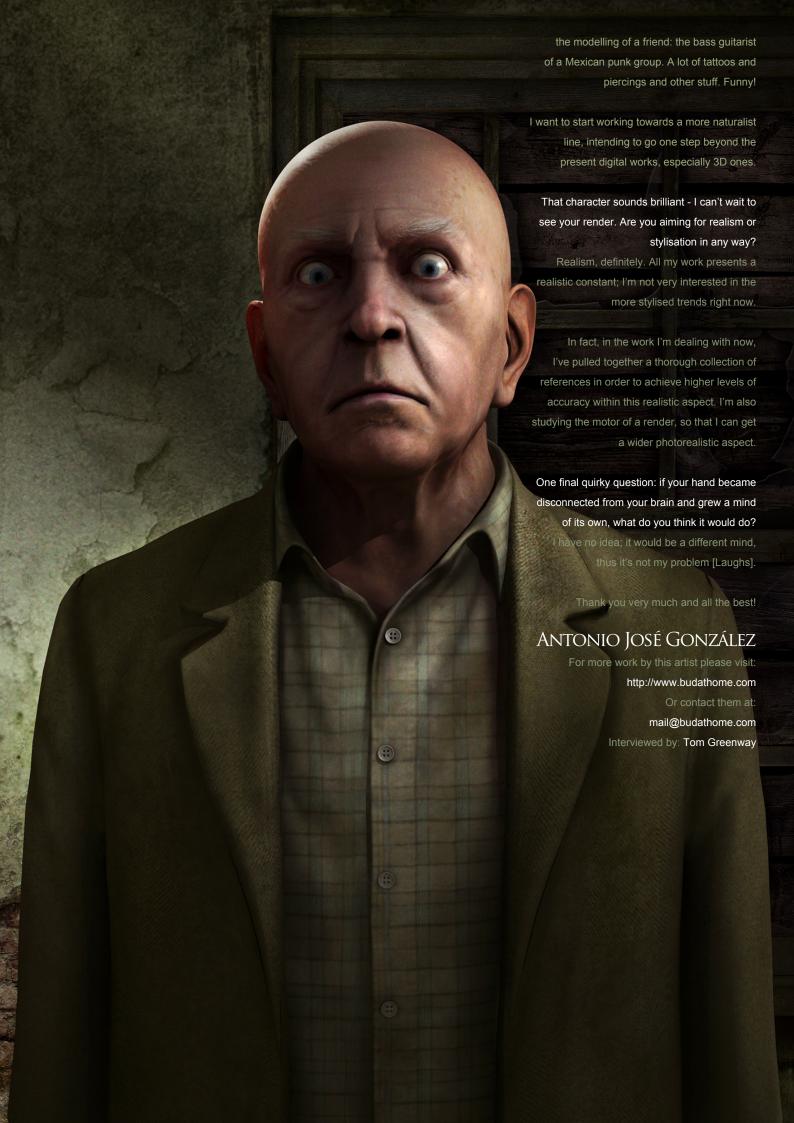
Regarding the technical aspects, there is not much to say as they are mainly simple. For the model of the base mesh I used XSI and a plain mesh, not too dense. I focused on a right distribution of the loops, and generally used squared polygons. For the shaping, ZBrush 2 was used. There's not much more to explain about this stage of the process, apart from the need for a lot of patience!

For the texturing, I used Photoshop as well as the direct painting of the mesh in ZBrush - through Projection Master.

I imported the second subdivision level of ZBrush for the render. I applied normal maps generated from ZMapper instead of displacement maps to avoid excessive render times. A HDRI was applied to the general atmosphere lighting, and a light's triangle for the direct lighting.

#### What can we expect to see from you next, Antonio?

Well, I am currently working on my modelling reel. The idea is to make some models based on urban characters: friends of mine, but also strangers. I want to make something different and satisfactory. If you are interested in the details, I can tell you that right now I'm working on





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"AFTER WITNESSING THE EFFECT THIS LARGE CHALLENGE HAD ON ARTISTS, MY GOALS QUICKLY CHANGED INTO MAKING THE EVENT INTO A FORM OF OLYMPICS FOR GAME ARTISTS. FORUMS WOULD ACT LIKE COUNTRIES AND ARTISTS COULD CHOOSE WHICH FORUM THEY WOULD LIKE TO REPRESENT DURING THE WAR. NOW, AFTER DOMINANCE WAR III IN 2008, I AM EXCITED TO SAY THAT THIS EVENT IS ONE STEP CLOSER TO THIS VISION. WITH 9 TEAMS IN 5 DIFFERENT LANGUAGES, THE DOMINANCE WAR SERIES IS SHAPING UP TO BECOME AN UNPRECEDENTED GAME ART EVENT OF ITS KIND"



Well, Dominance War III has now come to an end for this year, and we can but anticipate what next year's battle will have in stall for us all. But let's take some time out from it all, after a long and furious fight, to step back and immerse ourselves in the simply amazing work that has come out of this year's war – a real feast for our tired and hungry eyes!

In this article you will find the Dominance War III story, followed by a 3D Winners' Gallery, as well as a 2D Winners' Gallery, and we finish up with an interview with the man himself: Mr. Fredrik Hultqvist. So grab yourself a cup of tea (or something a little stronger!), and let's enjoy the offerings from this year's talented artists that battled it out in Dominance War III...

Enjoy!

















## DOMINANCE WAR III: THE STORY...

The machines' victory did not last... In a final desperate effort, the remnants of the opposing forces united against the machines and created an ultimate weapon that would temporarily disrupt all electrical functions within the galaxy. Unfortunately, something went horribly wrong...

It has been 1,000 years since the disappearance of machines. All electrical and mechanical systems continue to malfunction and every planet has been cut off from each other, leaving planetary wormholes as the only means of travelling between planets. Only myths remain of how life with technology once was, until recently...

Bizarre creatures have been emerging from wormholes; creatures made entirely of metal!

The ultimate weapons' effects are apparently fading. Everyone must put a stop to this rising menace before it's too late, but unfortunately everyone in the system is already at war!



For the past century, an inter-galactic war has been raging between 9 rival planets. As a result, sending massive armies to a new awakening machine world is impossible, and so in their place, single powerful units have been summoned...

Your mission, with the help of a powerful magical artefact, is to enter an ancient, forgotten world via wormholes, destroy all rival enemy forces sent by other planets, crush the awakening machines, and bring back the secret of technology in order to dominate all opposing forces, their planets and their wretched citizens – once and for all!



TOPIC: Create a Powerful Artefact User!

TIME PERIOD: Post-apocalyptic futuristic fantasy where magic exists. With technology unable to function due to the remnant effects of an ultimate weapon launched 1000 years ago, a new science has emerged. Formed by residual effects of an ancient ultimate weapon, or maybe an evolutionary step in the universe – whatever it is, this mystical force can now be harnessed by a few talented individuals, or can be infused into items to make simple magical items or immensely powerful magical artefacts. As a





result, a new age of life has come forth: an age of magic!

RACE: You can create any organic, demonic or un-dead race: alien, vampire, angel, succubus, skeleton, mutant, elf, human, fish, pixie, giant – anything! The only exceptions are: no robots, metal constructions, magical golums, cyborgs, steam engines, steam equipment or anything with electronics!

CLASS: Select one of the following classes (no combinations):

Invoker – This character type harvests





powerful magic to destroy and/or manipulate his surroundings or enemies

Clericon — This character type uses magic to heal, strengthen, weaken, banish or bind foes or allies

Stalker – This character type cannot manipulate magic like an invoker, but rather has mastered the art of magic to aid his/ her stealth, information gathering and assassination skills

Warlord – This character type is not proficient in manipulating magic, rather he/she has mastered the art of hand-to-hand combat, weapon(s) fighting and high-armoured defence. Warlords may use magical weapons and armour

ARTEFACT WEAPON: Powerful artefact weapons are needed to defeat all opposing rival forces and to destroy the awakening machines. Your character must wield a single artefact or a pair of similar artefacts (two scimitars, two daggers etc.). Artefacts must possess one of these following magical energy types (no combinations):

- Fire/lava
- Water/Ice
- Air/Lightning
- Earth/Rock
- Vegetation
- Darkness/void
- Light/Holy
- Summoning





Special notes: If you choose to give your character two similar artefacts, you can only have one magical power type. For example, you cannot have one ice dagger and one fire dagger. They must both use fire or both use ice.

INSIGNIA AND COLOURS: Your character must possess your team's colours and/or your team's insignia (if your team has one). If you don't have the colours or the insignia located somewhere on your character, your entry will not make it into the top 50. Please represent your team properly. This is a team event so make your team proud!

#### What Were the 3D Requirements this year?

9,000 tris max for everything (everything = characters, glows, effects, artefact, weapons and their effects, steeds, pets, twins, multiple characters, summoned monsters and personal equipment)

- 1 x 2048 Colour Map
- \*1 x 2048 Reflection Map
- \*1 x 2048 Specular Map
- \*1 x 2048 Specular Colour Map
- \*1 x 2048 Normal Map
- \*1 x 2048 Bump Map
- \*1 x 2048 Opacity (transparency) Map
- \*1 x 2048 Glow map
- \*1 x 2048 Glossiness map

(\*Optional)

Important: You cannot break your 2,048 sheets into smaller sheets; 2-sided polys are permitted;





for all final images, all shaders that ship with UT3, HL2, Crysis, idTech4 and Xnormal are allowed; standard, non node-based shaders within Max, Maya, and XSI are allowed; no manual HLSL editing via code, and no node-based shader creation.

LIGHTING: For the winning pose image, enhanced lighting solutions like VRay, Mental Ray, Brazil etc., are prohibited. You may only use standard lights together with standard shadows. For beauty and construction shots, the above lighting restrictions do not apply.





YOUR PEDESTAL'S BUDGET: Create a small pedestal with unrestricted polygons and textures. You cannot put anything on this pedestal that your creation can use or pick up.

## AND WHAT WERE THE 2D REQUIREMENTS? The Deliveraries:

A final illustrated concept of your glorious

Dominance War III Character. You can use
any 2d software package and/or any traditional
mediums like acrylics, colour pencils and oil
paints to create this image.

A black and white or single colour (for example light to dark blue etc.) modelling sheet that shows at least 3 angles of your character.

Choices include: front, right, left, perspective, close-up(s) and/or back view.

A minimum of 6 black and white or single colour (for example light to dark blue etc.) initial, rough draft thumbnail sketches.

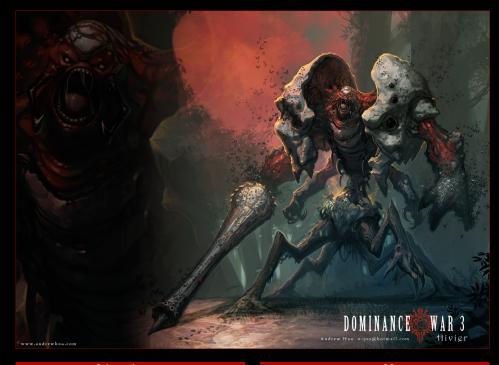


#### Were There Any Restrictions in This Year's War?

- No vehicles allowed!
- Your character cannot possess digital technology. A simple pistol is allowed, but a

laser gun with circuitry is not allowed.

- Organic living pets and steeds are allowed.
- No teams or groups. Everything must be made by one person.
- All sketches, ideas, concepts, models, 3D meshes etc. must be made specifically for this competition.
- Keep gore and nudity to a decent level, please!
- Artists wishing to enter 3D and concept art categories must create a new idea for each category. No 3D entry and concept entry can look the same.
- Creating a forum thread and showing your work in progress is mandatory. Entries submitted without showing their work in progress will be disqualified. Entries who keep their work a secret until the last few days can potentially be disqualified.





Machines grew stronger!!





Entire cities across the galaxy began to fall, until finally, two powerful entities shifted the tide of war. Equipped with vast amounts of magic, a powerful warlord from planet 3DTotal and a powerful sorceress from planet CGLand singlehandily defended their home worlds from severe destruction. Through their inspiring actions, more warriors from 3DTotal and CGLand began to join them, and soon they were able to bring the war to the machines' home world itself... until one day, when everything simply stopped.





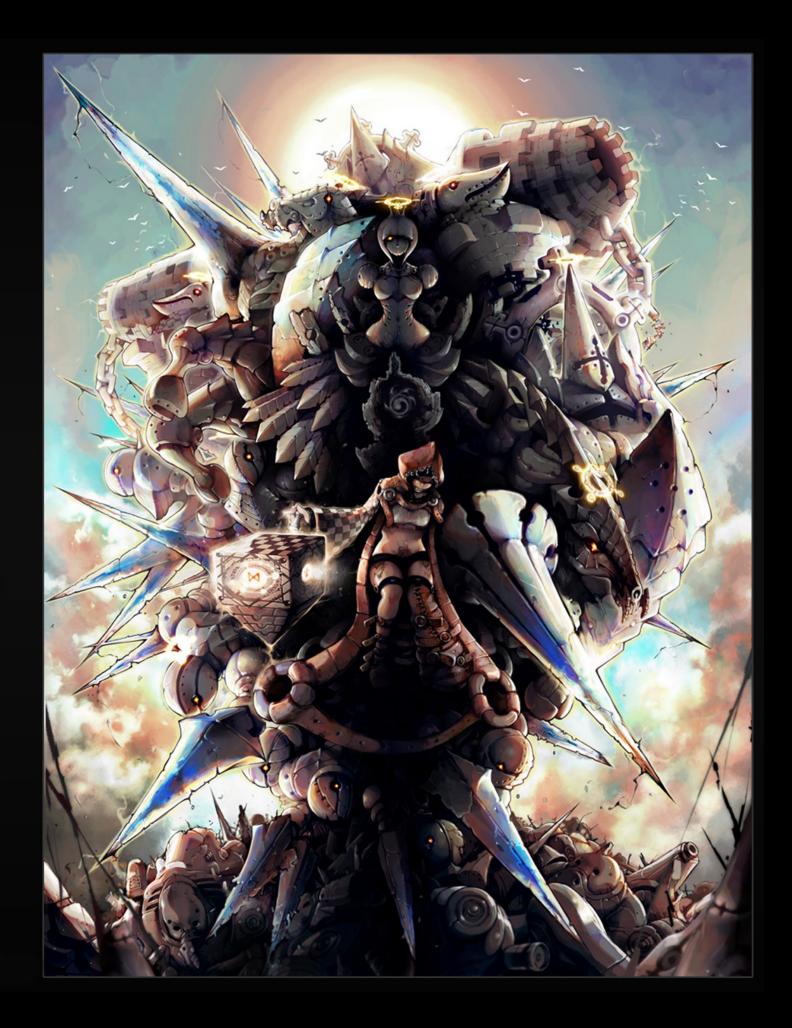
All machine activities immediately ceased and all wormholes instantly closed. It was a great victory for the two surviving planets, 3DTotal and CGLand. However, both heroes were lost when the wormholes suddenly closed. Nobody is sure what happened to these heroes, but for the time being everyone was content to enjoy the victory and time for recovery while it lasted...

Five years later, everything changed for the worse...

To be continued in 2009!

#### THE WAR OF 2008

This chapter of the Dominance War series has now ended. So let's take a look at those who reigned victorious in our Dominance War Winners' Galleries...



# DOMINAL EN SALLERY 3D WINNERS' GALLERY



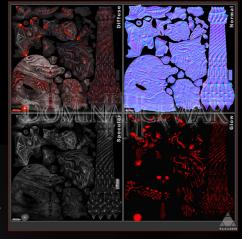
## 1ST: PARKPARKIN

**Dmitry Parkin** http://www.parkparkin.com parkparkin@gmail.com

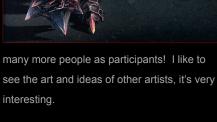
"For me, DWIII is a great event, like the Olympic games. I leave my base work to take part in DWIII. I believe it is a very important event for all those people whose combine their own lives with game dev. It's a chance to show your own skills (ideas and execution) and declare yourself as an artist. I would like to say that I really enjoy this event, and this year I have seen many artists from different lands and forums making it very, very good. Year in, year out, DW stands to become better and better, and I hope next year to see













"I would like to thank my friends and my wife for their support. I also want to thank ID software for Quake1, as it was after this game that I decided to become an artist in game dev. Thanks to Trent Reznor for the soundtrack for Quake, I listen to it when I work. And, of course, thank you, Fred, for the Dominance War!"





**2ND**: GUN1280

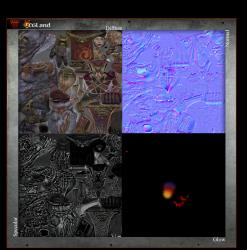
chang Gun Nam

http://www.gunbbang7680.com
guns25@nate.com

"I didn't know about

Dominance War until my co-worker suggested that I should join this event. At the time, I thought that a competition involving teamwork sounded really interesting, and I liked the way that artists created one subject altogether. I was really happy to be a part of CGLand's team – we did our best for victory! During the event, I found that DW gave me lots of opportunity to develop my skills, and it taught me a lot. It was my pleasure to compete with artists from all over the world. There are no other competitions like Dominance War and so, for me, it's now the only one.

"I'd like to thank my teacher, Terada Katsuya, and Takeya Takayuki for helping me to become who I am today. I'd also like to thank my wife who gave me lots of advice and support, and I'd like to say thanks to my daughter and my coworkers. Thanks!"















#### 3RD: Goldo O

#### **Adrien Debos**

http://adriendebos.cgsociety.org/galleryadrien.debos@amail.com

"Having followed

Dominance War since its very beginning I had always wanted to join, but for schedule reasons, or simply a lack of inspiration, I had stayed a spectator in the two previous editions. This year I decided to quit finding excuses – I had to enter the war!

"I consider DW as *the* marathon for "in-game" character artists. Joining this exciting event, that attracts some of the most talented 3D artists from all over the world, was such a







great adventure! I knew that the long road to the finish line would be exhausting and rocky, but somehow, when I was missing out on my weekends or my regular nights of sleep, knowing that thousands of other artists were living the same thing in order to create the most beautiful characters, was quite exhilarating.

During the competition, I only browsed sparingly through the different forums – seeing all this talent was often very humbling, and would make you doubt your work. At the same time, the feeling to be fighting as a team, along with the members of your chosen forum and not as an individual, really made a difference to me. I met awesome people at 3DVF, and even if we were not the biggest army we did our very best to defend our colours with pride.

"Whatever the results, like in every marathon, the sweetest victory was to cross the finish line, and reading the message of congratulations after submitting my final renders was truly one of the most rewarding moments of my artistic career!

"I'd like to thank my girlfriend, my mates at Relic and all the 3DVF team for all the support and advice that gave me the strength to reach the end. Thanks a tonne folks, and long live Dominance War!"





## **4TH:**BRUTIKONG

Alex Velazquez
http://www.brutikong.com
brutikong@gmail.com

"This year's competition was incredibly tough. All the veterans from last year really upped their games, and a whole slew of newcomers had me looking over my shoulder the whole way. It pushed me creatively, technically, and probably most of all physically. But it was a lot of fun and I'm very happy with the result, and that's a rare thing for me.

"CHUDD evolved from that vague, crappy thumbnail to what it is, due in large part to the feedback I got on the forums and from my Starbucks crew at Raven. So I need to thank those guys, but most of all I must thank my wife, Mari, who fended off our marauding babies long enough for me to finish in time. Good on ya girl!"









## **5TH:** RV EI

**Michael Ryan Kime** http://www.pseudo-pod.com nichaelkime@yahoo.com

"Dominance War is a fun and challenging time of year that any artist can look forward to. It is a competition that provides all of the constraints to spring creativity and all of the community to bring it to life. The backdrop of the Dominance War is ultimately creative, both in its own world and in the online game-art social community. With facets like forums warring other forums and so forth, stories are created in tangent to the backdrop. This whole immersive air about it is what brings









me back every year. The competition itself is organic and grows and changes, which keeps it fresh and contemporary. It is great to see the process of the competition from beginning to end each year, and to also be there as it grows over the continuing years into something nigh ritualistic.



"I would like to thank, of course, Fredrik
Hultqvist and Game Artisans proper, as well as
its community. I would also like to thank Adrian
Majkrzak for being a positive motivator, and Tris
Baybayan. I look forward to next year!"





**6TH:**BULGAROV

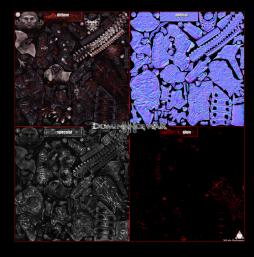
http://www.bulgarov.com/











# DOMINANCEWAR

## 7TH: IOSH SINGH

Josh Singh

http://www.joshsingh.net
oshsingh@joshsingh.net

"Wow! What a competition!

There was just so much talent this year, I kind of felt overwhelmed. But I found that one of the keys to help me stay competitive was to not get too preoccupied with what others were doing. I had an idea that I was excited about, and I really was competing with my own ideals and aesthetics.

"I had always wanted to make a "Monkey King" type character. With my father being Indian, I had always grown up with images of Ganesh







and Hanuman in my Auntie's and Uncle's houses. I always thought they were so cool. So I got it in me to sort of make this new incarnation of a Monkey King. I never went into detail with anyone as to why the Monkey King would be in a post-apocalyptic world, fighting robots; in my head, I just sort of imagined this war-torn world calling forth its ancient heroes to fight this mechanised menace... Like all the air monks combined their chi energy and summoned Sun Wu Kong. And after the eons spent in peace, he's just really p\*ssed and ready to take it out on some Robots – ha ha ha ha ha!

"I learned a lot of stuff this time around, too.

No artist is an island, or at least I'm not. I am constantly showing and being shown artwork from all my buddies at work and online. I received a lot of helpful critiques from the guys at work, namely Billy Ahlswede, Minoh Kim and

Jeff Murchie. I also want to say a special thanks to Chad Hamlett for taking the time to discuss displacement techniques with me. And to Gavin Goulden for giving pointers on lighting on the forums. And, of course, a very, very special thank you to my beautiful wife, Autumn, who took care of the real life details, such as having dinner on the table and the kids bathed and in bed every night without complaint, while I toiled away at my computer with a monkey god."







## 8TH:

Clueme Ain
http://clueme.egloos.com
clueme@empal.com

"Because the Dominance

War is open for every level, I could join, even though I'm not that great an artist. When I started the concept of Clericon I wanted to make more of a cosy character, like a mother. So I chose the Milk concept (actually, the name of "ILK" is a word which removes "M" from "Milk"). Milk symbolises the cosiness of a mother. Dominance War is filled with many different pleasures. I could see many great artworks and I could talk with many artists. It was a really cool competition!

"I can say that "GPZANG" is the most inspiring artist in my life. He gave me the secret techniques of texturing. Also, I'd like to thank Neophensiline and Deto from Gameartisans."











#### 9TH: Squirrely Jones

Michael Voeller

http://www.squirrelyjones.com
michaelyoeller@hotmail.com

"This was my first time competing in the Dominance War; I followed the last two but was busy with other projects, and this is really the first year that I was probably able to seriously compete. It was a total blast; rarely do you get the opportunity to go completely outside the box and push an idea to completion – you usually have someone else calling the shots, whether you're employed or a student or whatever. I think it's great how much this event has grown, and hopefully next year it will be even bigger, with more art drama!

"I'd like to thank all the old school Polycount legends, like Bobo, Hyper and Pior, for inspiring me to make crazy sh\*t. Can't wait till next year, I'm gonna make a cow with a Samurai sword and call him Moosashi!!"







# DOMINANCEWAR

#### **10th:** muppet man

Chris Moffitt
http://www.chrismoffitt.com
cmoffitt7@hotmail.com



"It was so great to have

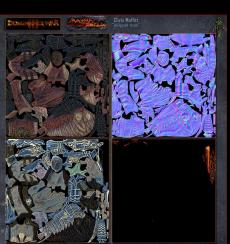
the freedom to create whatever, so I tried to go way outside of my comfort zone. It was fun brainstorming and gathering references for this guy. Creatures are always satisfying to work on. I think the best part though was the sculpting phase. I love traditional sculpting and ZBrush is as close as it gets to the real thing!

"This event was such a great way to grow as an artist. I really appreciated the forums and having constant feedback throughout the









process. It's good to get fresh eyes on your stuff. The deadline also pushed me to manage my time more wisely and forced me to take a lot of shortcuts. I have a much faster workflow now but there are still better ways of doing things that I need to learn. I was fortunate enough to have some time off to work on this, but I don't think I could have finished in my free time on top of working and taking care of my family – the stress just about killed me!

"I would like to thank my wife. I promised her I wouldn't enter this year, and when I did she was very supportive. She knew how excited I was about it and encouraged me to enter. She



rocks! She also came up with the twisted idea of the little creatures. Go figure?!

"Throughout the competition I was so inspired by all the amazing entries out there, it really pushed me to revisit some of the design elements of my character. I was never really sure how it would measure up to all the entries out there. I feel very lucky and happy with the outcome.

Thanks to Fred, the judges and anyone else involved in putting together such an amazing competition – it was such a blast!"

www.3dcreativemag.com page 50 Issue 034 June 2008



# DOMINAL FOR SALLERY 2D WINNERS' GALLERY



1ST: JERRY

Joongmin Park http://jerryj.egloos.com/ wndals2@cjinternet.co.ki





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Issue 034 June 2008

## DOMINANCEWAR

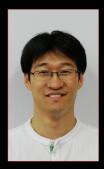




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#### Dominance War III: An Interview with Fredrik Hultqvist.



We are very pleased to be able to speak with Fredrik Hultqvist, founde of the Dominance War annual inter-forum competition. So Fred,

can you tell us a little bit about yourself and what gave you the idea to start DW in 2006?

After last year's 18-paged article about

Dominance War II in 3DCreative magazine, I am pleased this year to be here in person to shed some light on Dominance War's past, present, and future. But first, I would like to congratulate 3DTotal on their 2nd Dominance War victory!





This year was particularly tough, but 3DTotal prevailed once again!

Now, about your question... There is not much to say about myself. I am just an enthusiastic game artist who wishes to bring artists together in a fun environment where we can keep in touch and have fun with a few monthly challenges. This whole network of sites, Dominancewar.com, GameArtisans.org, and UnearthlyChallenge.com, are a series of sites that focus on game art challenges. I suppose I am committed to these sites because I, myself, started competing in game competitions in 2003. Since then, I got my first job in the games industry, and at the time I was frantically happy. Four years down the road and now here, I am trying to give others the same benefits that I, myself, have received. Dominance War is an extension of this thought, but on an international scale.

How the Dominance War series started? Well, I began to wonder which site could kick which other site's butt in a competition. In 2006, I



finally took action and combined two sites I admired into one larger challenge – and so began Dominance War I. After witnessing the effect this large challenge had on artists, my goals quickly changed into making the event into a form of Olympics for game artists. Forums would act like countries and artists could choose which forum they would like to represent during the war. Now, after Dominance War III in 2008, I am excited to say that this event is one step closer to this vision. With 9 teams in 5 different languages, the Dominance War series is shaping up to become an unprecedented game art event of its kind.

Everyone can see the fantastic response to this competition you have created, but can you tell us a bit about what goes on behind the scenes?



#### How much work really is this to organise and who else helps you out

Wow, you are right, the response has been awesome! OK, what goes on behind the scenes? In DWI, it was just myself who created everything manually: html pages, design layouts, thumbnail/final image submissions via emails, story writing, conducting interviews, sponsors correspondence etc., etc. It was a lot of work, but at the time I believed I touched on something great. So, the following year, preparations were made for a much larger event. This time I had a few programmers create a system that allowed artists to submit their own thumbnails and final images, and artists from multiple forums could join as well. Things improved a great deal and the task of maintenance was considerably reduced... until 2008's Dominance War III. To kick-start a competition in 5 different languages was almost a disaster! Translating every page on Dominancewar.com was a humongous task and, once the war started, I got 40 help-request emails per day in various languages. Because of this, I had to abandon my beloved home forum, Gameartisans.org, to keep Dominance War III running. Now that Dominance War III is over, if you asked me, "Would you do it all again?", I'd simply say, "Yes, and then some!" After this year's success, we now have a multi-lingual foundation that can make future events so much more!

I was not alone in Dominance War III. I would like to thank this year's translators and DW activists for helping me bring DW to other countries: Taehoon Oh for his legendary commitment to Koreans on CGLand.com; Vincent Ganachaud for his inspired work on the French forums, 3dvf.com;



# DOMINANCEWAR

and Maxim (Maxx) Miheyenko for his fanatic role on the Russian forums, CGTalk.ru. I would also like to thank Taehoon and Maxim for showcasing Dominance War in CG Events, universities and presentations in their respective countries. Finally, I would like to thank Joseph Mirabello for being this year's publicity manager. He wrote many inspired articles for the event and now he is taking things a step further by securing sponsors and handling relations with various companies. Without these 4 important people, Dominance War III would never have happened. In 2008, I will be looking into expanding this devoted team that I have come to admire.

It seems that this annual event is going to grow into something quite spectacular and attract a lot more attention as the years pass. With this in mind, what will you be able to offer future sponsors of the event?

I believe that, as Dominance War grows, so too will its features. Various new gimmicks and ideas are being added to an already stable and trusted base system, so you can expect the best of the past with even more cool features in the future. Sponsors will also benefit from DW's expansion. In Dominance War III, for the first time, the event has (for lack of a better term) "left the building". It made it into a Game Developers conference





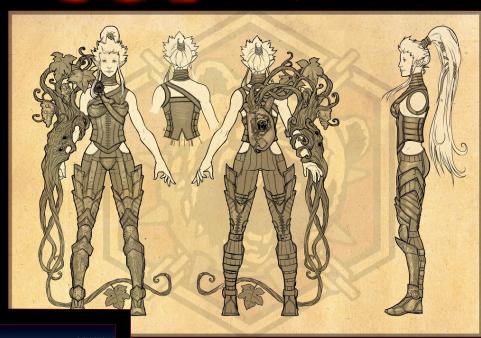


and into another major CG event in Moscow. It also made it into Korean universities and was broadcasted in an award ceremony on Korean Television. Wherever the Dominance War logo goes, so too will its supporting sponsors. For game company sponsors, Dominance War is becoming a site where artists of all levels join. Because of this, an employment system that has been tested by Blizzard Entertainment in Dominance War III will be taken a step further. More details on this will be released on Dominancewar.com before DWIV in 2009. Should anyone wish to advertise on DW or sponsor the event, I am always open to new advertising methods, sponsorship signups and ideas.

# DOMINANCEWAR

### Can you tell us a little about the judging pane and process?

This year, the judges' panel consisted of 3 judge types: Tie-Breakers, Initial Judges, and Final Judges. Tie Breakers, usually famous artists like Brom, Kenneth Scott and Nicolas (Sparth) Bouvier, were responsible for breaking ties between entries. Initial judges were responsible for cropping entries down to 50. And last but not least, final judges were each responsible for choosing 10 favourites from the remaining 50 finalists. Like everyone else, I believe it is important to have fair judging. Therefore, I try to find successful artists who do not participate in the challenge themselves and who are familiar







with the great wheel that makes up the game industry. Naturally, each judge has his/her preferences and this will always be a factor, but usually good artistic ability and technical skill always stands out amongst other entries. If there is too much emphasis on originality and less thought on the Dominance War theme and/or story line, I sometimes have to step in and correct the situation... which is always a painful experience. For additional info, the judging process is described in more detail here: www.

gameartisans.org/contests/events/3/judges/index.php

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### What were some of the points about this year's winners that really stood out for the judges?

After seeing this year's results, and after reading the judges' comments, I found that artists with well-rounded skills in design, modelling, texturing and sketching generally did well in the challenge. If an entry lacked a single ingredient, then it typically didn't make it far. Furthermore, artists who created something familiar did exceptionally well with the judges. There were a few complaints on the boards about some entries being too similar to previous works... but, as in the Olympics, if you are a worldclass badminton player then you won't go to the Olympics with a tennis racket! Artists had an entire year to explore new techniques and ideas. It was no surprise that, when it was time for war, it was time to make a technical marvel with what one already knew. For example, the 7th place champion, Josh Singh, has been building up a portfolio of stylised characters all year, and because of this his entry turned into a superior form of his acquired knowledge. Clueme Ain, 8th place champion, practiced creating beautiful, softly-coloured characters during the year, hence her softened owl made it into the top 10. Finally, this year's 1st place champion, Dmitry Parkin, did some studies on



fat characters during the year. Because of this, he won the war with his best creation to date: another fat man. Next year, if these artists enter once again, I am sure they will have new ideas and techniques in which to impress the judges yet again.

Do you have any plans for next year's war, yet?

Any particular directions you would like to see the event going in?

Ha ha, now that would be telling! As if readers from the two-time award-wining 3DTotal need an "edge"? I can't mention anything about the storyline yet, but, as revealed on Dominancewar.com, there is another brand new category opening up in Dominance War IV. Aside from this, rest assured that Dominance War IV is going to be another grand event with a cool new storyline, more awesome prizes, and more press coverage than all proceeding years. So if you are an artist reading this article, be prepared!

Thank you for having me in 3DCreative. I've had a great time answering these questions and I look forward to talking with you some more next year!



For more information please visit:

www.dominancewar.com

Or contact:

nult99@hotmail.com

Interview by: Tom Greenway







Hi David, when did you get started in the 3D printing business and what were your main reasons for starting a company?

I was first introduced to Rapid Prototyping (RP) / 3D printing when I started working for a large aerospace company called Northrop Grumman. I worked in their wind tunnel research and development group and we used the technology to quickly and accurately produce scaled models of new fighter aircraft for aerodynamic testing. Since then, I have worked for a company called



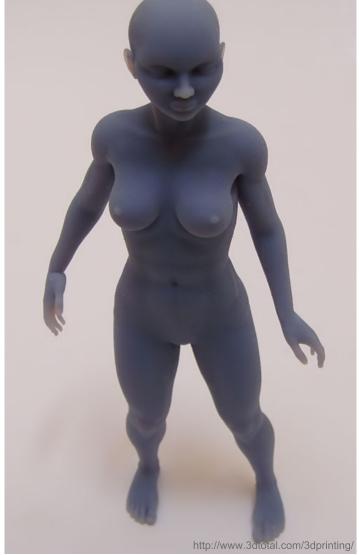






Parker Aerospace, in their R&D group, called SpiritWorks. In my role there, I was the lead director for all RP efforts, as well as the resident expert for other divisions of the larger Parker Hannifin Corporation.

Recently, a college friend of mine, Carl Kasalek, and I decided to start our own company. I was starting up my own design firm when clients began requesting physical models of the product I was developing for them. I was able to provide it to them through the network of companies with RP machines that I had developed. Before long, Carl and I conceived many new uses for the technology, some of which we will be releasing this summer (2008). As a result, in order to satisfy all of our customer's needs,



we decided to purchase our own machines. We now offer eight different technologies that make up some of the most advanced capabilities in RP / 3D printing.

We at GROWit are developing our capabilities at a healthy rate that will allow us to stay on the leading edge of the available technologies. Although we are a startup company, members of our team have more than fifty years of combined experience in Aerospace, Medical Equipment, Consumer Electronics, and Automotive design, as well as business development. With this broad experience, our team can provide our customers with the best advice available. Our Sales Team is complimented by our Engineering and Design Team, all of whom are expert CAD operators. With two Mechanical Engineers, one Electrical Engineer, and one Manufacturing Engineer, our ability to provide a superior product, as well as expert advice has been acknowledged within the industry as an outstanding asset.

### For our readers, can you briefly explain the process of printing a 3D model?

Rapid Prototyping (RP), Additive Fabrication, and 3D Printing are three of the many names given to a host of related technologies that are used to fabricate physical objects, within hours, directly from 3D computer-generated files, better know as Computer-Aided Design (CAD) files. These methods are unique in that they add and bond materials in layers to form objects, unlike traditional manufacturing methods, such as machining, that are considered to be subtractive manufacturing methods. For many objects, subtractive methods are time consuming and material wasting, as cutters "whittle" away at a block of material to create the final product. With Rapid Prototyping, the operating software takes the 3D computer model and graphically slices it into thousands of layers; one of our systems slices these layers as thin as 16 microns (.0006 in), smaller than a human hair and produces unmatched detail and quality. The machine then solidifies material in only the cross-section (shape) that is needed to make up each layer. It then moves on to the next layer until you have a finished part.



### **3dcreative**

### GROWILLE 3D PRINTING

Another unique aspect of this process is that it allows the production of designs that are impossible to machine. For example, internal voids can be created to make lighter objects and/or complete assemblies can be formed all in one process, thus alleviating the need for manual assembly. Essentially, all additive fabrication technologies provide the ability to fabricate with unbounded geometric freedom. It is the most important advantage of additive technologies over subtractive methods. Additive fabrication systems reduce the construction of complex objects to a manageable,







straightforward, and relatively fast process. These advantages have resulted in widespread use of RP as a way to reduce "time to market" in manufacturing.

Creature and Model copyright Francois Rimasson

Due to the additive, layer-by-layer, nature of RP, the parts often look like they are growing out of the machine, just like a plant grows from the ground. Thus, the term "growing" a part is commonly used, rather than building or fabricating a part; thus the origin of our company name, GROWit.



What are the latest and most exciting new developments in this field?

GROWit's new developments include multiple materials being integrated into one part, full colour parts, metal parts, and functional end use items (not just prototypes anymore).

Additive fabrication offers the potential to use multiple materials as well as to control the local geometric meso- and micro-structure of a part. This means that the functionality of a part can be optimised in ways that are impossible with previously existing manufacturing methods. Materials can be selected for their mechanical, thermal, optical, or other properties, and then can be physically deposited in a manner that optimises or changes those properties beyond the capability of the intrinsic material itself.

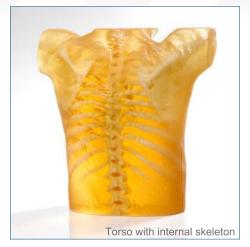


### GROWILLE 3D PRINTING



This optimisation is becoming reality though a machine that has just been released. From February 2008, GROWit will be one of the few public companies in the United States using it. This machine is Objet's new Connex 500 and the new capability that it provides is the "Digital Materials" that it can create. We can select different portions of the part in the computer and define the material properties that are needed. The machine then has the option of applying a hard or flexible material in the designated areas,















or can even mix the two materials together on-the-fly to produce a variety of materials with varying properties and strengths (Digital Materials). One of the key benefits of this technology is the broad range of products that can be processed in one run.

Specs: Connex 500. Net Build size (X, Y, Z): 500 x 400 x 200mm (19.7 x 15.7 x 7.9 inches) Layer thickness (z-axis): As small as 16 microns (.0006 inch).

Materials: Over seven different kinds of build materials, including transparent, flexible and medical hearing aid materials. Dozens of "digital materials" can be created on-the-fly by mixing any of the two standard materials together.

### 3D PRINTING GROWILLC

### **3dcreative**



Our unique Objet Connex 500 machine won first place for best innovation at the EuroMold 2007 show. This award is recognised as one of the most prestigious industry awards and is often referred to as the "Oscar of the product development scene".

Before the new Objet machine was available, the only way to produce parts with multiple colours all in the same build was to use the







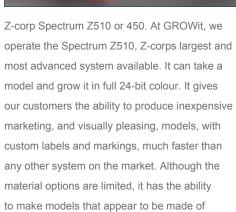












different materials just by "painting" them different colours (See pictures above).

Specs: Spectrum Z510. Net Build size (X, Y, Z):  $254 \times 356 \times 203 \text{ mm} (10 \times 14 \times 8 \text{ inches})$  Layer thickness (z-axis): .0035 inches

Materials: High performance composite

Elastomeric Direct casting (used to replace nonferrous castings).





### GROWILLE 3D PRINTING



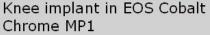
Another recent area of development is an RP machine that allows us to "grow" parts directly out of fully dense metals. Until now, producing a metal part required a subtractive method of manufacturing, or growing a plastic part that would be used for one or more secondary processes, like investment casting, to produce the metal part. Now, we can build directly from the CAD data and produce parts out of stainless steel 17-4, Cobalt Chrome, and a tool steel. We will have more materials available later this year (See pictures to the right).

**Specs:** EOSINT M 270. Net Build size (X, Y, Z): 250 x 250 x 215mm (9.85 x 9.85 x 8.5 inches)

Materials: Stainless Steel 17-4 Cobalt Chrome Direct Metal 20 (tool steel). Many more materials will be available later this year, including iconel.

GROWit's acquisition of this metal process, combined with our engineering team and other advanced processes, have been influential in our development of Rapid Manufacturing (RM), also known as Direct Digital Manufacturing (DDM). DDM refers to parts that have been specially designed and optimised to better fit their intended use through additive fabrication. These parts are taken directly off of our machines, and, with little to no post processing, used directly for their intended application.







Designer shifter knob in EOS Stainless Steel 17-4





injection mould insert (Source:: EGi, EOS)



propeller prototype for wind tunnel testing





Traditionally, items tend to loose functionality because they can not be manufactured, or it would be too costly, using typical manufacturing methods, so compromises have to be made to make them "manufacturable". In some cases, by designing for DDM from the beginning, we are not only able to produce parts that have much more function than their earlier counterparts, but we are also able to produce them at a lower cost. For example, electronic housings can be designed with integrated buttons (fewer part count) and better ergonomics, or toys can be created with moving parts already assembled.

Another area that is benefiting tremendously from DDM is tooling (Direct Tooling). Most manufacturing processes require tooling of some sort to aid in the process. Tooling can be anything from a fixture to hold parts in a desired orientation to molds used for casting or injection molding. Both of these can be very costly to

produce and sometimes take weeks to develop. By using Additive Fabrication, we are able to produce these parts in days, not weeks, saving valuable time and money to get a product to market faster.

# What do you see happening in the future in this business?

The industry is slowly shifting from producing prototypes to the mass manufacture of end use items. A few RP systems specifically aimed at rapid manufacturing applications are beginning



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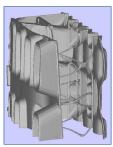
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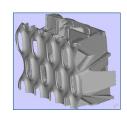
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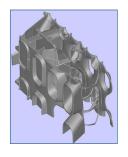
to appear commercially. Although RM is not widespread at this time, many experiments that adapt existing RP systems to specific RM applications, like I have explained above, are underway. As technology, materials, and other barriers are overcome, additive fabrication will find its way into the mainstream across a broad spectrum of applications. RM will be the branch of the RP technology that has the most direct impact on people's lives.

Some observers have likened it to a second industrial revolution. That may be a bit of an exaggeration, but it's a good bet that nearly all facets of life will be impacted in some way by RM - in many ways that are not apparent today. Today, unless there is an overwhelming need for a specific advantage that RM provides, a conventional manufacturing approach, enhanced through the use of Direct Tooling, is typically chosen. However, as the benefits of RM become more recognised, the balance can be expected to tip in favour of RM.













# What has been your most unusual 3D printing job to-date?

GROWit has produced a variety of unusual and creative projects for our clients, including intricate figurines and toys for product development, as well as items that I cannot describe here because they are proprietary. The most unusual job that I can share is an architectural model. The challenges derived from its large size and unique features. It would have taken weeks to create using cardboard, foam, glue and other crafting materials, yet we

were able to grow this model in just two days.

The most difficult aspect of this project was its requirements for thin cross sections and fragile connections (See pictures to the left).

## **GROWIT LLC**

For more information please visit:
http://www.3dtotal.com/3dprinting/
Or contact David Gurrola from GROWit LLC:
sales@growit3d.com

FAQ about this service can be found here!



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## Headcases

Satirical puppet show *Spitting Image* was a huge hit when it aired on ITV between 1984 and 1996, running to more than 100 episodes. Millions tuned in to watch as celebrities and politicians were lampooned by latex puppets. Characters included Margaret Thatcher, members of the Royal Family, a "crying" Gazza and boxer Frank Bruno.

12 years since the show was axed, *Spitting Image* has at last been reinvented for the 21st century in the shape of *Headcases*. Airing from 6 April 2008 for eight weeks, the idea of *Headcases* wasn't to re-launch *Spitting Image*, but to create a new show that would be a natural progression from the use of puppets.

## A CREATIVE CHALLENGE

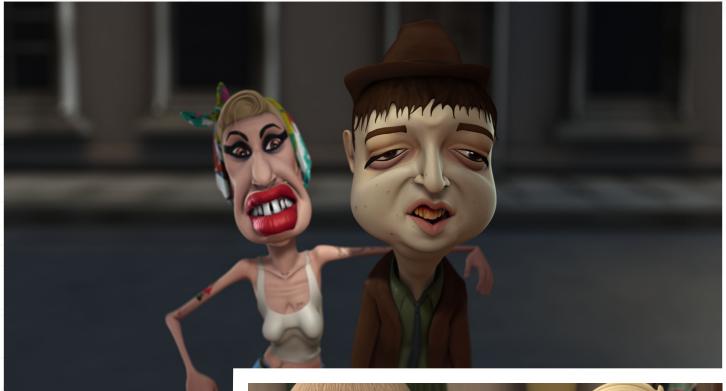
Taking the concept of a show like *Spitting Image* and updating it for an audience of today was always going to be a challenge.

ITV Granada commissioned Red Vision, an award-winning CG and visual effects company, to design and produce the new comedy. They









were tasked with creating a pilot series of 8 x 30min sketches, in which all characters and environments would be created using CGI.

With a team of 65 - including everyone from the executive producer to the tape operators - work began on the series in June 2007.

From the beginning, it was clear that more than 50 hero characters, dozens of supporting characters and sets, and hundreds of props would need to be created. "This was going to be a highly challenging task, both technically and creatively, especially while trying to maintain a high standard," says Antony Carysforth, CG supervisor at Red Vision. "In some cases, each sketch had to be treated as a mini short, so almost all of the creative work had to be done from scratch each time."

## MODEL PRODUCTS

3D modelling and character animation for Headcases began in August 2007. Red Vision has used Autodesk 3ds Max 3D modelling and animation software since the company was founded. They started using Autodesk Maya 3D modelling and animation software in 2000





and also Autodesk MotionBuilder character animation software for motion capture work.

"Autodesk's Maya is a great tool. We've used it on a number of major projects and are always pleased with the results," says Antony Carysforth. "That's why we decided that it would be fundamental in the creation of *Headcases*."

Some of the motion capture data was processed in MotionBuilder but the team developed rigs in Maya to enable the layering of keyframe animation over the top of the motion capture data. For modelling some of the team also used 3ds Max: "Because of the integration between Autodesk products, it was easy to transfer models from one application to another," says Carysforth.

## A TOPICAL ISSUE

To meet the brief, each episode had to include topical storylines, which involved working closely with the editorial and writing team, and setting up CGI casts and sets to allow for maximum flexibility of re-voicing and animation at short notice. A huge challenge was creating a production pipeline to deliver high quality CGI-based animations within a tight time frame that would allow the comedy writing team and creator Henry Naylor, to present material within 48 hours of broadcast.

Every possible method was used to make sure that episodes were timely, such as motion capture and the use of a skilled key-frame animation team. A big part of the show involves characters telling jokes to camera. Red Vision used motion capture for these scenes and left the key-frame animators to handle some of the trickier, more action oriented animation.

And a number of techniques and processes were developed to enhance the speed of delivery without compromising the quality and





pace of the on-screen content. "A fair amount of R&D went into the 'blocking' phase of the show," says Stephen Corren, VFX supervisor. "We wanted this phase of production to be flexible, but as fast as possible. To achieve this, we ended up using a virtual 'take' system in Maya, driven by Maya's non-linear animation system TRAX. All the underlying complexities of non-linear animation tools were hidden behind a UI that allowed the blocking artists to create new performances for a character based on a particular camera. They could cut between cameras in Maya and the appropriate performance would kick in. This allowed us to work quickly and cheat on things just as you would on a typical live action shoot."

Carysforth believes the introduction of the smooth mesh preview to Maya 2008 had a big impact on the team's workflow: "Sometimes the smallest improvement can make a huge difference to artists' workflow and with the preview it allows you to smooth a polygon with just one keystroke. Before this, we'd have needed to add new nodes to Maya's dependency graph to see the smoothed version and would quite often forget to remove the node before the model was frozen. Even though it seems such a simple feature, it relieved us of so many headaches. The UV tools have come on over the last few releases so texturing was nice and straightforward."

The team also used Maya nCloth on a handful of shots that needed cloth simulations. "The referencing is nice and solid now which is essential on a production of this size,"

Carysforth continues.

## TEST OF CHARACTER

One of the biggest challenges was developing a facial rig that was powerful enough to do what the team needed, but also flexible enough to work with so many different characters.

"Graham Collier and Tom Pullan, two of the character leads, did an amazing job developing the face rig over several months," says Carysforth. "We had a default 'generic' face that was set up to hit the various shapes we wanted mostly using blend shapes and then we used Maya's wrap deformer to apply the generic face to any particular character. This worked very well and saved lots of time although occasionally we would still have to create custom targets for some characters if their proportions were significantly different to the generic face. With 50 plus characters, it's easy for even the simplest of tasks to spiral out of control, but Maya's character setup tools provided the team with a really solid platform to work from.

"Creating caricatures of famous people that are both funny and recognisable is a very demanding process. But the character design and modelling team did an amazing job of handling that even though they were always working to very tight time frames."

## SEEING THE LIGHT

All the lighting work was completed over the course of 15 weeks, meaning an incredible amount of rendering in a short space of time. "To help with that, we developed a reasonably streamlined pipeline that allowed the lighting team to concentrate on the creative aspects of the show," says Carysforth. "And all animation was baked before it made it to the lighting team, which tends to make everyone's life easier."

"Maya's geometry caching feature was used heavily and worked really well right out the box," Carysforth continues. "Prior to lighting, each animation scene was split into various pieces and cached separately on the renderfarm. Then the individual caches would typically be remerged dynamically as the lighting scenes were being automatically constructed. The ability to



## HEADCASES Autodesk software helps Red Vision breathe life into Headcases

apply deformers on top of cached data is also quite handy – especially for making quick fixes when there isn't a lot of time.

The team used a regular Maya workflow for shader networks and light setups. According to Carysforth: "Maya's improved support for hardware shaders and plug-in viewpoint renders helped offer more possibilities for faster lighting setup and look development."

All rendering was done in RenderMan and Animal Logic's MayaMan was used to export custom shaders and lights to RenderMan on the fly. The team was particularly pleased with the richness and depth of the rendered imagery.

"We're really pleased that we've been able to match brilliant comedy scripts with truly engaging characters," says Carysforth. "The viewing figures indicate that the series has been very well received and we're currently awaiting ITV to re-commission future specials and another series. Maya was fundamental to the job and has really helped us take a 2D concept into 3D with fantastic results."

## ABOUT RED VISION

Red Vision is a multi award winning CG and effects company. After opening its first studio in Manchester in 1995, it opened a second facility in London in 2001 and a third in Toronto in





2008. The company now employs 30 core staff, including software specialists and visual effects supervisors.

Having been nominated for numerous BAFTA, RTS and Emmy awards, Red Vision has won two BAFTA Visual Effects awards (2004 and 2005) and an RTS Best Digital Visual Effects award (2006). It has also produced awardwinning CGI for several high profile advertising and corporate production commissions for clients such as Hiscox Insurance and Seven Seas. For more information, please visit: www.redvision.co.uk.



## **HEADCASES**

For more information please visit: http://www.redvision.co.uk/ Or contact:

info@redvision.co.uk

Article courtesy: Red Vision



# the chase

The filmmakers from creative production company Shilo (www.shilo.tv) recently directed and produced an HD spot completed entirely in CG for the creative team from Seoul, South Korea-based ad agency Cheil Worldwide and their clients at Hankook Tires.

"The Chase" is a high-speed, adrenaline-pumping car chase with a simple concept: good versus evil. As the vehicles navigate increasingly dangerous obstacles, the action-packed 30-second sequence runs the gamut of everything we love about Hollywood-calibre action sequences. Throughout the pursuit, Hankook tires are the stars of the show, performing under adverse circumstances in a neo-futuristic city and continually symbolising "good" in the process.

As Shilo's co-founder and creative director
Jose Gomez said, "Cheil Worldwide came to us
with the idea of conveying that Hankook Tires
allow you to out-manoeuvre and out-gun your
competition. To me, the finished spot epitomises
the classic struggle between good and evil."





The creative challenge in "The Chase" was fitting a five minute chase scene into a 30 second narrative, while also inducing an adrenaline rush and conveying heart-pumping emotions. With multiple shots left on the cutting room floor, Shilo's artists focused on the moments of the chase that had the most impact. Finding a fitting ending was another challenge during the spot's conception. To fittingly conclude the high-impact action, Shilo's team



ran through countless concepts and ideas.

Ultimately, the drama evolved out of multiple situations where the hero car narrowly escapes the thousands of Lamborghinis that are forming out of the shadows and is pursued into a cliff-hanging climax.

"One of the things that makes 'The Chase' so unique is that it's a commercial for tyres," added Gomez's fellow lead designer for the project, Tom Green. "Typically, tyre spots are not memorable for their clean design aesthetic and stunning visual effects. Our clients at Cheil and Hankook were comfortable with our abilities and let us push the boundaries of the final product. From creating extreme car crashes, narrow escapes, and the cinematic birth of villainous adversaries, the freedoms our clients gave us really allowed 'The Chase' to become something sensational."

Tools used in developing this project included: Autodesk Maya for 3D, QUBE for managing renders, Mental Ray for rendering, Adobe Photoshop for texturing, Adobe After Effects for compositing, and Final Cut Pro for editing.

For Cheil Worldwide, the project team was comprised of creative directors Joe McDonagh and Greg Harrison, art director JinHo Kim, agency producer Wooseok Chung, and account

## THE CHASE Good guys use Hankook Tires in the new action-filled CG/HD spot from Shilo



services representatives Daniel Choi, Christina Kim, and SangHo Lee.

Along with Jose Gomez and Tom Green, Shilo's team included executive producer Santino Sladavic, producer Jake Hibler, editors Green and Andre Stringer, 2D animators Green, Gomez, Nate Davies, and Eugene Gauran, 3D designers/modellers Ethan Summers, Cody Smith, Trentity DeWitt, Nate Davies, Matt Foley, and Blake Guest, additional 3D modellers George Longo and Joey Struve, matte painter Dylan Cole, and 3D animators Kiel Figgins, DeWitt, Foley, and David Weinstein.

Music, sound design and final mix were all courtesy of Christophe Eagleton.

## **ABOUT SHILO**

Shilo is an Emmy Award-winning creative production company representing a group of filmmakers led by directors Jose Gomez and Andre Stringer. Internationally known for creating original and commissioned work that is powerful, provocative and visually extraordinary,





Shilo's deeply held passions for design-infused storytelling and their innovative applications of live-action, design, and animation techniques deliver breakthrough experiences for screens large and small. From its studios in New York

and Del Mar, California, where recent projects have spanned short films, commercials and music videos, Shilo has the capacity and experience to originate ideas and handle all aspects of production. Shilo published its first book, *We Make It Good*, in 2007, and also curates the site www.WeMakeItGood.com. For more information, or to request a reel, please contact Tracy Chandler at +1.212.352.2044, or visit Shilo online at www.Shilo.tv.

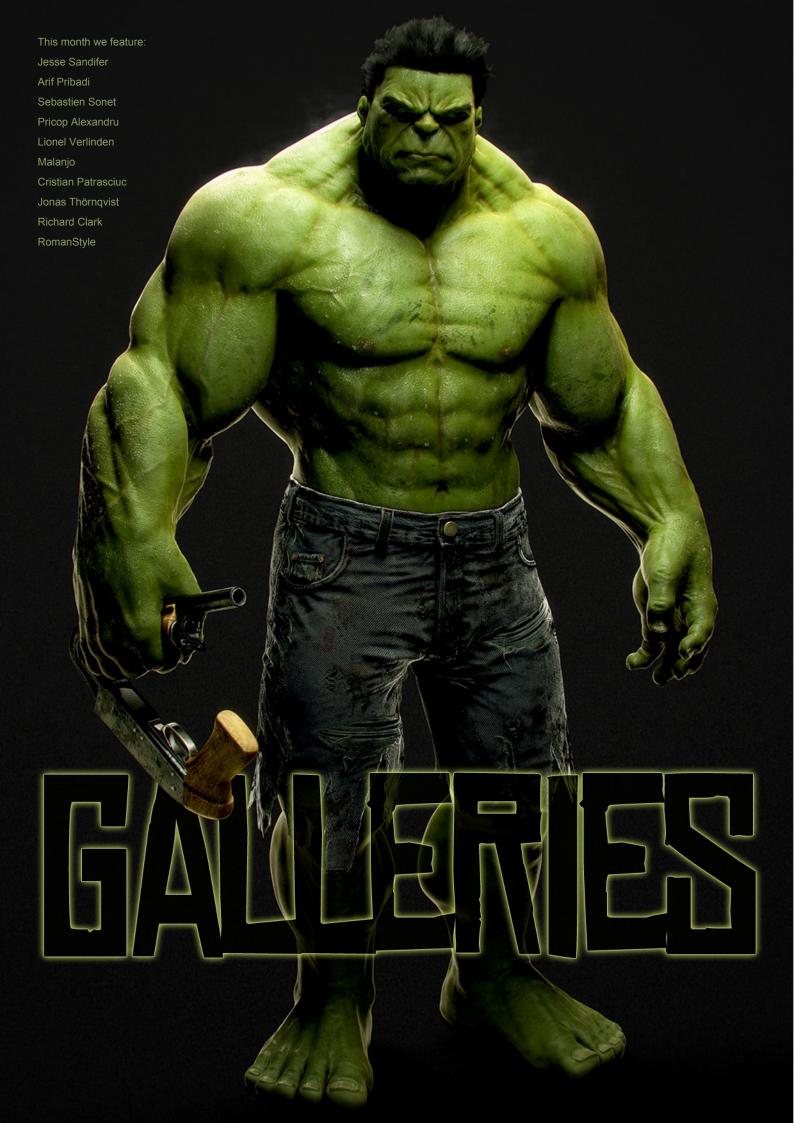


For more information please visit:
http://www.shilo.tv
Or contact:
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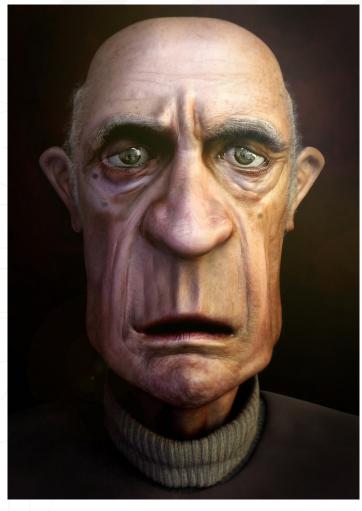
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## 1936 AUBURN SPEEDSTER 03

### **Richard Clark**

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# the SDC Shallen

3DCreative Magazine introduces the "Challenge" Section of the mag. Every month we will run the challenges, available for anyone to enter, for prizes and goodies from www.3dtotal.com shop and to also get featured in this very magazine! The 2D challenge runs in the conceptart.org forums and the 3D challenge, runs in the threedy.com forums. Here we will display the winners from the previous months' challenges and the "Making Ofs" from the month before that.

# Stylised Challenge

In Association with





# Stylised Challenge

Caveman

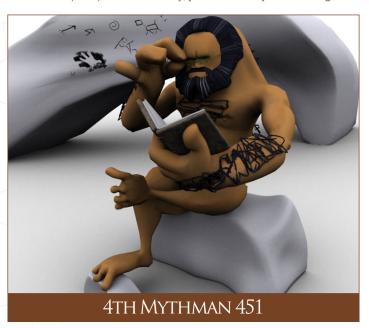
## THE CHALLENGE

Welcome to the Stylised Monthly Challenge. Each month we will select a character and post some images in the forum thread as references. All you have to do is to create a 3D image of this character in a stylised/abstract/cartoon style, whilst keeping your entry instantly recognisable. We wanted to publish some content in 3DCreative Magazine on how to create stylised animals and characters, such as you see in the many feature films and cartoon galleries. We thought this regular competition might bring in just the images and "Making Of"s that we need, whilst giving away great prizes and exposure. If it's successful, we will try to boost the prizes up as much as possible! This month's character was 'Caveman'; here you can see the top nine entries, as voted for by the public.



Funny and humorous entries that break the character down into its most recognisable components. Emphasise these in whichever ways you wish and render your stylised/abstract/cartoon masterpiece. The rules are pretty laid back: please submit 1 x 3D render (minor post work is okay). It's up to you if you want to have a background or if you want include some graphical elements or text on your image. Renders of the 800 pixel dimension sound about right, but the winners will be featured in 3DCreative Magazine, so if you can create some higher resolution images too, all the better!

There will be one competition per month, with the deadline being the end of the month (GMT). For a valid entry, just make sure your final image is

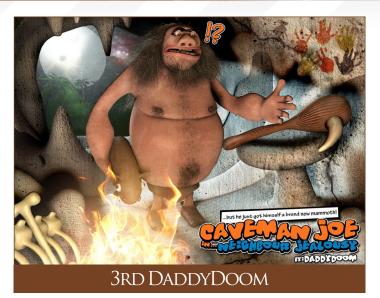








posted in the main competition thread before the deadline. We require the top three winners to submit "Making Of" overview articles that will be shown on either 3DTotal.com or in 3DCreative Magazine. These need to show the stages of your creation, different elements, and some brief explanation text of why, and how, you did what you did. We will format this into some nice-looking pages to give you some great exposure, and us some quality content.









Each competition will have one main thread, which starts with the brief at the top. All entrants should post all WIPs, give feedback, and generally laugh at the crazy ideas that are emerging each month!

## CHALLENGE THREAD

The entire CAVEMAN competition can be viewed here.

The current challenge at the voting stage is: CARNIVOROUS PLANT!

To view previous and/or current entries, please visit: www.threedy.com

Or, for the 2D challenge, please visit:

www.conceptart.org

Or contact: lynette@zoopublishing.com

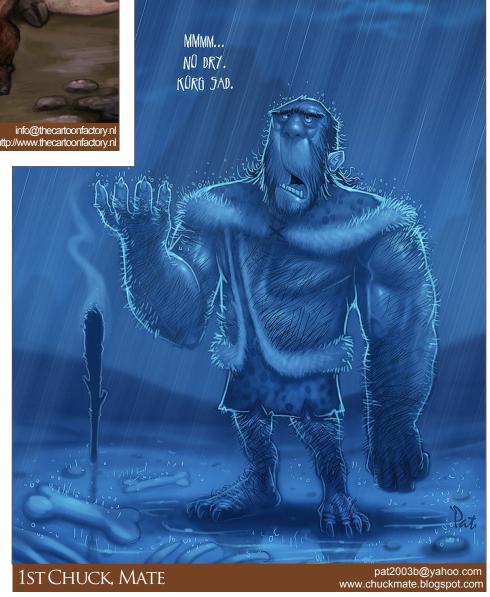
## CAVEMAN Stylised Challenge



3RD LOZTVAMPIR3 joewiegts@yahoo.com

2D CHALLENGE

Here are last month's top entries from the 2D competition ...





## MAKING OF'S

Here are the "Making Ofs" from last month's top three winning entries...

## 3RD CHUBU

In this "Making Of", I am going to show you the basic process I went through to create my image: "Golden eggs are witch craft", which was made for the 3DTotal Stylised Challenge - "The Executioner". I will take you through the sketching, modelling, texturing, posing, render and post production in Photoshop.

## CONCEPT SKETCH

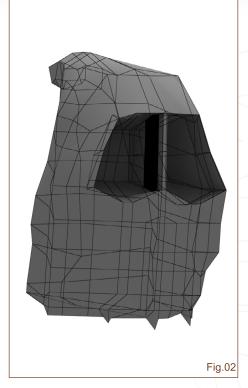
The concept I wanted to go for was a weak, funny, kind of a "loser" executioner. I actually didn't spent a lot of time sketching since I knew what I want him to look like (Fig.01). A quick Google search gave me a rough idea of what makes an executioner; things such as a mask, gloves, big leather boots, etc.

# MODELLING, TEXTURING & RIGGING

The modelling was the easy part. As an animator I always build my characters in a "T-pose" because maybe I will use the image again later in life. I didn't sketch a front and side view though. Instead I wanted to flow



with my original idea and make things on the spot without limiting myself to anything. There is an upside and a downside to this method: the upside is that I can invent things as I go along (such as the suspenders I added when someone from work came with a pair). The downside is that when you go into the details of



the character, if you haven't thought it through then you can get "stuck" (for example: what will the arm pit area look like or the height of the pants). I usually do a sketch of the views I need, but this time I decided to take a chance.

I used a simple box modelling (in 3ds Max 8),

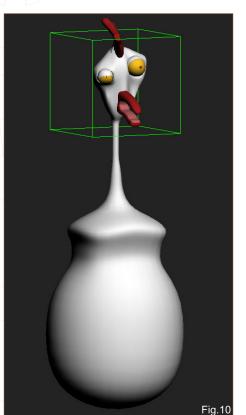


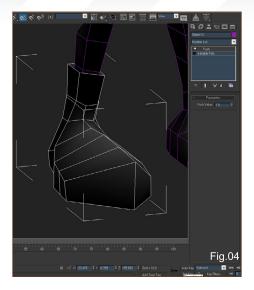
## CAVEMAN Stylised Challenge

## **3dcreative**

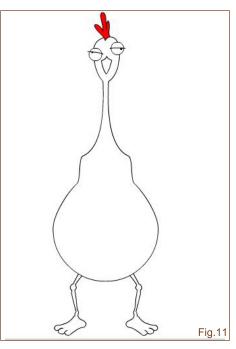
starting from the body, down to the legs and eventually the head (Fig.02 and Fig.03). The clothes were modelled using the push modifier. For the boot I took the part I wanted from the leg, cloned it as an independent object and used the push modifier to make the basic mesh for the boot (Fig.04). The same technique was then used for the pants (Fig.05) and gloves (Fig.06). Details were then added such as the folds in the gloves and boots (Fig.07). I also added the belts on the boots and the suspenders to the pants. All the textures for the character came from: www.vray-materials.de. The first test render looked like this (Fig.08).

After that I adjusted the head to make it look more like a sack on his head (Fig.09) and made the eyes from three spheres in an FFD box. Before I started the BG modelling, I did some R&D on the subject. A quick search in Google gave me the things I needed to make the platform. The trees and wall on the far side of the background were modelled after finding some references of cartoony trees etc. on various image sites. The platform itself was made of individual planks to make it more



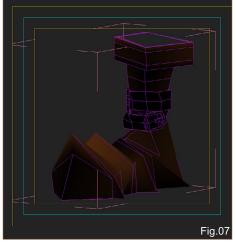


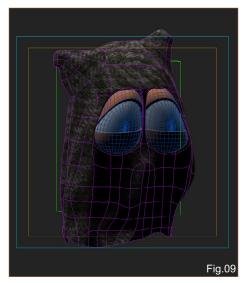












detailed. I textured every plank with a slightly different material to give some variety to the texture.

The chicken actually came in at a very late stage of the work (Fig.10). It was modelled after a good friend of mine drew a quick reference image of the front perspective for me (Fig.11). The rigging and the skinning is my weakest point, that's why I use the Genius free rig made by Brad Noble (http://www.bradnoble.net/rigging/index.html). It's unbelievably easy to use!

Fig.14







## **STAGING**

The pose was the longest part of this piece, I spent almost two weeks trying to find the best pose possible. The most important thing you have to do when you're creating the pose of a character (and the layout of the scene) is make sure that the silhouette of the character is clean. As you can see in Fig.12, the character's left leg is behind the axe which results in an unclear silhouette. In Fig.13, all of the body parts are combined in the centre of the character and once again, the silhouette isn't very clear-



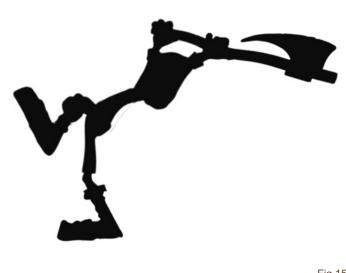


Fig.16

it's difficult to distinguish between the details. Also the line of action is hard to follow. In **Fig.14** the line of action is quite good, but the problem with this particular staging is that the right arm of the character and the axe are too close to the head, which again makes the silhouette unclear. My final staging is shown in **Fig.15**. As you can see, all body parts are visible to the eye, the axe is clear and the line of action cannot be mistaken (**Fig.16**).

The final render looks like this (**Fig.17**). Now it's time to Photoshop it a little!

## POST PRODUCTION

The final image was rendered in layers: the BG in a separate layer, the character and chicken in another and the platform as a third layer. I had some problems with the lights and shadows.

For the render I used two Vray lights but it didn't give me the solution I needed. I didn't think I would make the deadline, so I compromised and did all the lighting in Photoshop. The BG was blurred, then I added clouds and lens flare. The dark shadows are a separate layer, as are the highlights on the character and platform. The platform got a gradient overlay to liven up the colours and on top of all the layers I did a gradient in overlay mode and lowered the opacity to give the final image a homogeneous

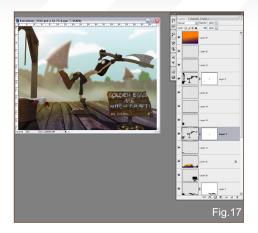
look (Fig.18). The final image was complete.

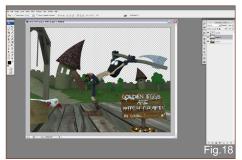
I hope you've enjoyed reading my short "Making Of". I hope to see you all again next time. If you have any more questions you can send me an email and I will be happy to answer.

## **GUY ZINGER**

For more work by this artist please contact them at:

guyzinger@gmail.com







## 2ND DADDYDOOM

Making Of: "Headsman O'Malley". It was a real surprise for me to get a second place in this challenge. This one was particularly crowded with such amazing entries and characters, and again, it's an honour and a privilege to stand among such talented artists! My compliments to them all!



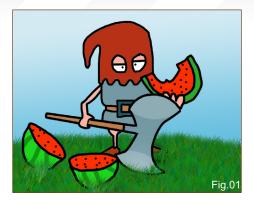
My main inspiration for this character was the egg-shaped Humpty Dumpty from *Alice in Wonderland*. I don't know why, but when I first thought of it the immediate image that popped into my head was Humpty Dumpty holding an axe and eating a watermelon. Go figure!

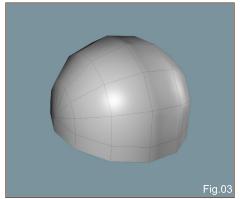
So, using Photoshop, I drew this really crappy concept sketch. I can draw better than this, I assure you, but this was just a five minute brainstorm doodle to get things rolling (**Fig.01**).

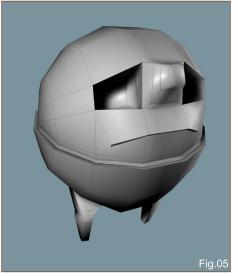
# MODELLING THE CHARACTER

With this concept as my primary directive goal, I started from a primitive sphere. After reducing the number of segments to 14 and rotating it 90 degrees on the X-axis, I deleted the lower hemisphere of polys to get the head starting point ready. Next, selecting the main edge loop, I applied the Extrude tool to create a new row of polygons for the neck area (Fig.02 and Fig.03). The next step basically consisted of selecting



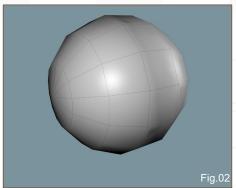


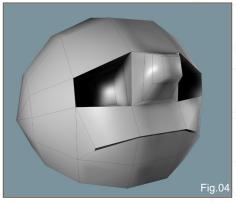


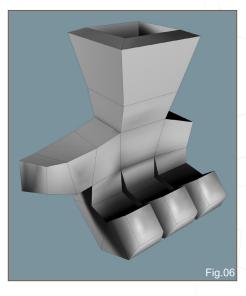


faces and extruding them outwards or inwards, until the basic shapes of the head, eye sockets, nose and mouth were defined (Fig.04).

A similar method was used for the body. After truncating a primitive 14-segment sphere in half (inverse to the head), faces were extruded to create the legs. For the collar, I used a simple loop of polygons duplicated from the head object, and then closed the polygon hole to get a solid object (**Fig.05**).







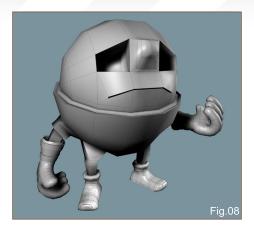
Since the model was to be textured in separate parts, I had to build up the several elements separately. At this point, my knowledge of 3D modelling and texturing is still very limited, so I have to improvise to get things done.

Thus, hands and feet for this character were box modelled separately from a primitive cube. Again, I used the extrude tool to create new faces to work with, subdividing it with HyperNurbs objects, until the desired shape was reached (Fig.06 and Fig.07).

## CAVEMAN Stylised Challenge

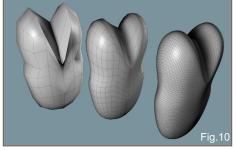
## **3dcreative**

Having hands and feet modelled, I placed them together with the other elements. The arms were already modelled on the body object, and the overall primary look of the character was now done (Fig.08). It was then time to apply a first HyperNurbs subdivision to the head and body. With this, some new details, like the nostrils and the mouth, could be shaped. A couple of primitive spheres were included to emulate the eyes. On the lower body, I added some straps around the thighs and knees (Fig.09).

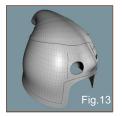




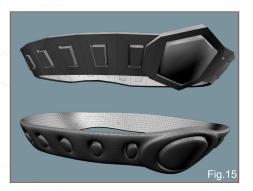












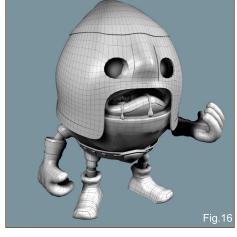
More elements were slowly brought in to refine the character's face and body. Using some edge loops around the mouth, I created the fat chunky lips and modelled a gnarly tooth from a cube, then duplicated/relocated it until the mouth was a fowl pit of ugly teeth (I don't believe that medieval executioners had a good dental plan) (Fig.10 and Fig.11).

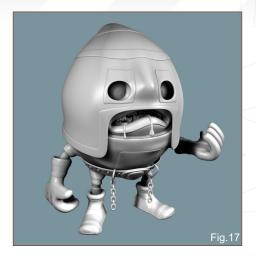
An executioner is not complete without his infamous hood. So, starting from a primitive sphere, and using a method similar to the one described above, the hood was brought into existence (Fig.12, Fig.13 and Fig.14). Also, by duplicating two loops of polygons from the waist, I modelled the belt object (Fig.15).

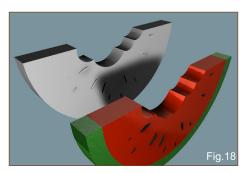
## **3dcreative**

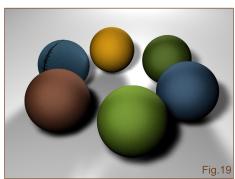
Nearly complete, I added a couple of last details: the watermelon juice drooling out of his mouth and the chains attached to the belt. Alas, the un-smoothed/smoothed clay character in all his glory (Fig.16 and Fig.17)!

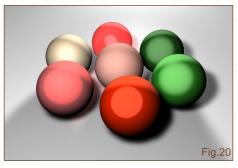
The final element to be added to the character was the watermelon slice in his hand. To build it up, I created two vector splines using Macromedia Freehand, exported them as EPS and then extruded them in C4D. The watermelon seeds consisted of selected polys from the mesh, which were duplicated to a new











object and then extruded and smoothed. Really simple and fast (Fig.18)!

# TEXTURING THE CHARACTER

The first thing I decided about the texturing was that the character's clothes would be a sort of suede material. Therefore, they would have a tiny scaled bumpiness, to give that subtle peach skin feel. For the several cloth elements (including the hood, shoes and leg straps) the same texture settings were used, but with different colours applied (Fig.19).

Concerning the organic textures, such as the skin, lips, teeth, juice drool and the watermelon, there's not much to say... I used really simple settings for these because I like to keep things simple when it comes to cartoon-like texturing (Fig.20)!

The chains in the belt were textured using a Brushed Metal shader from the C4D library.

And thus, the final textured Executioner (Fig.21)!



#### CAVEMAN Stylised Challenge

#### SETTING UP THE SCENE

I had a hard time finding the right mood for the scene. The execution stage featuring the "Executions Served" sign, along with the tree trunk, axe and the watermelon (see Stage.jpg) were defined and modelled pretty fast, but the surrounding scene went through dead ends before I managed to get it right.

Some props were devised to fill up the scenario, such as the barrels, castle walls and towers - mostly from simple primitives like cubes, cylinders and cones. All the texturing for this array of objects was custom made.

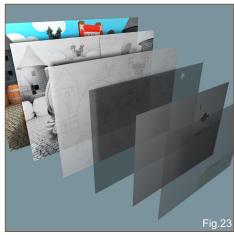
I couldn't finish this without the typical extra pet character. It seemed quite obvious that, due to context, it had to be a rat. Since it would be so small I wasn't too concerned about details, so it ended up as pretty generic and simple (Fig.22).

The background landscape was made from a Plane object and then smoothed. The trees were actually duplicated polys from the plane object – extruded and smoothed. Finally, a very generic castle was created and nested on the landscape. The sky was another Plane object with a Gradient texture applied, and the clouds were an Alpha Map made in Photoshop.

I used a Scene Camera, instead of the default editor camera, because I required Depth Of Field for the final render. The lighting consisted of two light sources and a Sky object (Fig.23).







I was to create three different passes for this image: one for the main GI render, a second one for Ambient Occlusion (some shadows had to be retouched in Photoshop) and a third for the Cel Render outline. These were later composed in Photoshop, along with the blood splatters, the glow in the axe, and the titles (Fig.24).

Finally, after a long month of modelling, experimenting and tweaking, I completed "Headsman O'Malley: Separating Heads from Bodies Since 1345".







#### 1ST STROGGTANK

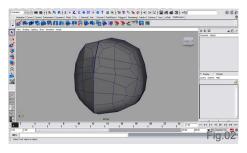
#### **CONCEPT**

I found this month's theme very interesting, so I tried several concepts during the "dead time" at the office (those boring render times!). I wasn't totally convinced with the ones I came up with (Fig.01). Almost all of my sketches were similar to each other, so in the end I decided to go for a mix of several ones and ended up with the classic dumb, fat and ugly executioner.

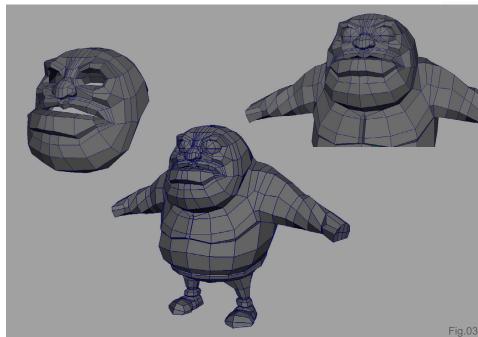
#### **MODELLING**

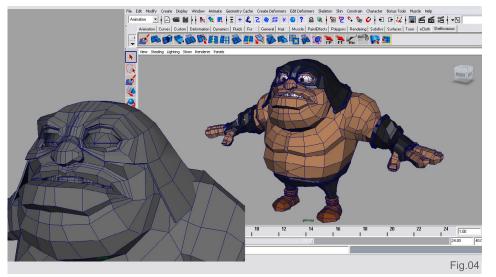
Using Maya, I started the model with the box technique, defining the essential loops for the face before making the mesh too dense (Fig.02). I then started to add edge loops and extruding faces where needed, always trying to achieve a nice flow of geometry to prevent issues when adding definition to muscles. It wasn't always perfect, but I was satisfied with the results (Fig.03).

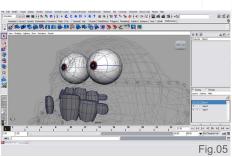
The mask and the gloves were made by extracting the necessary faces from the head







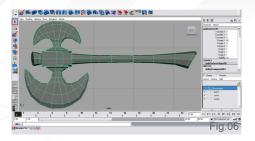




and the arms, and then I moved the vertices to match them to the desired size (Fig.04). For the final touches I added many spheres to work as rivets for the mask and the gloves. The teeth were made from polygon cubes and the eyes were just a couple of NURBS spheres (Fig.05).

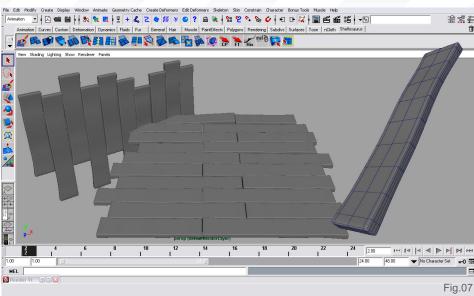
#### CAVEMAN Stylised Challenge

#### **3dcreative**



The axe has a very common design: it was modelled using the same technique, starting with a default cylinder, and then I just scaled and deformed it to match the character style (Fig.06).

Due to the lack of free time, I wasn't able to create a more complex scenario, so I just



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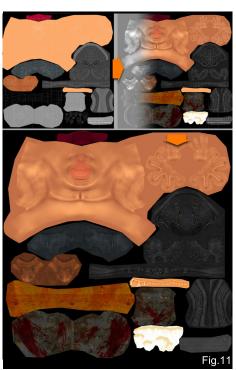
modelled a wooden board and then arranged and scaled it in a random order to create the floor and the background (Fig.07).

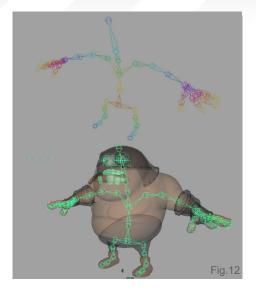
#### **TEXTURING**

I unwrapped the character, along with the axe, to save texture space. I then decided to export the result to ZBrush for detailing (Fig.08). The main details I added to the model were the wrinkles in the skin and pores on the face; the stitches and wrinkles for the clothes and the wooden texture for the axe. I used only the standard brush and a few custom-made





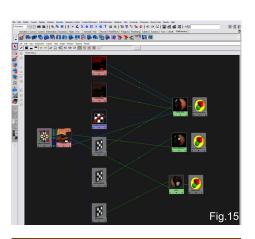


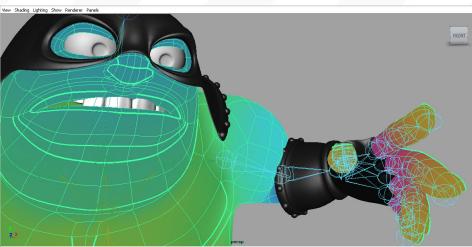


alphas (Fig.09 and Fig.10). I then exported the displacement map at 4096 pixels wide, to be ready for a large render. With the UVSnapshot in Photoshop, I started to paint the character's main colours. I then added the textures for the clothes and the axe. I used the displacement map to work as an occlusion pass in the clothes texture, and for the skin I colourised it and multiplied it over the main colour (Fig.11). The textures for the floor and for the axe were taken from the Total Textures CD, with a few dirt maps.

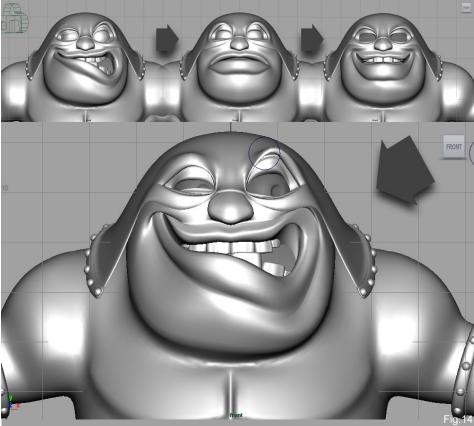
#### POSING & RENDERING

For the posing, I just built a basic skeleton. The binding was pretty fast: using the smooth bind in Maya and adjusting some areas with the Paint Skin Weights tool in the armpits and the elbows was enough to get the rig bent right (Fig.12 and Fig.13). I then just mirrored the weights and then I was done!









#### CAVEMAN Stylised Challenge

#### **3dcreative**

I decided to work with the expression of the character - something more along the lines of the previous sketches I'd made. Although the character was already skinned, it was easy to add some blend shapes to his face. I ended up with three blends and then mixed them to get the final expression: a mad-looking face (Fig.14). For the materials, I used the Misss Fast Simple for the body, a Lambert for the clothes and the wood, and a mia\_material for the metal parts (Fig.15). The lighting setup only consists of one directional light and one HDRI. Then, in the rendering settings, I just turned on FinalGather in the MentalRay options (Fig.16).



# Fig.17

#### POST-PRODUCTION

For the final render I simply used some stock images to create the background sky in Photoshop. Then, with a depth pass from Maya, I created a subtle depth of field blur. For the final touches I added an orange photo-filter in Photoshop and a little glow to add a more unified atmosphere to the scene (Fig.17 and Fig.18). The whole scene took me around five or six days to complete (Fig.19). I learned a lot and I fought with my computer a lot, but (most importantly) I had a lot of fun and enjoyed watching all the competitors' progress in the forums. There is a lot of talent spread around the world!

Thanks for all the votes, thanks for reading, and thanks to 3DTotal for these amazing challenges!



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#### tte SCUIPTING Challenge

Due to popular demand, a Sculpting Challenge has been introduced in the Threedy Forums, over at 3DTotal.com, which has taken us all by storm! With such great entries and talent involved, we couldn't help including a small feature in this month's 3DCreative on the top five winners of The Sculpting Challenge – 001 – "Orc's Head". These challenges have gathered interest from far and wide and are resulting in some truly awesome final submissions (80+ entries for this first challenge – an amazing start for such a young competition!), so let's check out the best of the first challenge here, and look out for more to come from these in future issues of 3DCreative magazine!





#### Sculpting Challenge

#### **Orcs Head**

#### SO, WHAT'S THE SPEED SCULPTING CHALLENGE ALL ABOUT?

The Rules: Entrants can use any software with sculpting tools, such as ZBrush, Mudbox, Blender, Silo, and so on.

- Each competition lasts two weeks: one week is allocated to creating and submitting the entries and the second week is allocated to judging and voting for the entries.
- 2. The moderators supply a base mesh for each competition from which everyone starts sculpting. This is so everyone gets an equal start and it also helps to keep everyone on topic!
- 3. There is a time limit for each sculpting challenge: entrants must spend no longer than the allocated time limit, and then post a screengrab of their model. There must be no cheating and the challenge relies on honesty from all!
- 4. Entrants must not add extra meshes to the base mesh. However, entrants are free to add any accessories or details, as long as they're within the base mesh, to give their characters personality.
- 5. There is no rendering, texturing, lighting or rigging it's all about the high-res sculpt! What we are looking for is the quality of sculpts that can be produced "under pressure". If entries are not complete, they can still be posted as long as they're recognisable as per the brief and on topic!
- 6. For each final entry, a screengrab from the entrant's software must be posted with their finished work in it. These images must be uploaded to the Threedy servers (using the "manage attachments" button on the forum reply page). Images should not be linked to external images files. Any images that are larger than the maximum size, or posts containing links to external images (other than for reference materials), will be removed and the poster disqualified.







- 7. Entrants can post multiple entries, but they can have only one final entry for each competition!
- 8. Entrants are asked not to create their own WIP threads. Everyone should simply post all WIP screengrabs in the main forum thread, and their FINAL entries in the special Submissions thread.

These rules apply to everybody taking part and there are no exceptions!

#### What can I win?

The winner can choose any two 3DTotal products from the 3DTotal webshop. Please note that a few products in the shop are not made by 3DTotal, but 12 month magazine subscriptions are fine!

#### So what were the requirements of the first challenge?

Issue 034 June 2008

Subject - Orc's Head

Time limit – 3 hours

Deadline - 12/05/2008, 10:00 AM GMT +0

"The orc. Everyone's favourite bad guy. Check them out in Warcraft, in LotR, in any fantasy setting. We want you to sculpt an orc's head (no body this time), in any way or fashion you deem fit. Realistic, fantasy, stylized, anything goes! Good luck! I'm feeling all green with anticipation."

#### Is there a challenge at the voting stage now? Sure is!

Subject – "Manimal": Half-Human, Half-Animal
Time limit - 4 hours

Deadline - 27/05/2008, 10:00 AM GMT +0

"We've all been there; it's a normal night at the cinema, the movie's in full swing and you're just about to reach your arm around the neck of your main squeeze, when all of a sudden you transform into an anthropomorphic vision of frenzied destruction and kill everyone in the room. In this comp we want you to take the base mesh provided and sculpt your visualisation of such a transformation, in any way or fashion you deem fit. Realistic, fantasy, stylised, anything goes. Pick whatever animal you like too, wolf, horse, puma, slender loris...

"We've also given you the option of having eyes this time around, there's a separate .obj file provided or you can add eyes yourself as subtools (or software equivalent) but you have to pick one or the other of these options, not both.

"Manimals assemble!"



# 3:00 1ST: CRIMSON KING www.thepicbox@hotmail.co.uk

# SO WHAT DO I DO IF I WANT TO JOIN THE 3RD OFFICIAL THREEDY SCULPTING CHALLENGE?

It's simple! Head on over to the Threedy forums, http://forums.3dtotal.com, sign yourself up with a Threedy forums user account, grab the mesh that's supplied with the challenge and go subdivide yourself silly! We'll see you in the forums and perhaps even in next month's issue of 3DCreative! Good luck!!

# Bugatti Veyron

Over the course of the next seven months we shall be running an in depth tutorial on how to go about creating the amazing Bugatti Veyron. The series will cover an in depth and comprehensive guide to modelling the car from start to finish and will focus on the key techniques and stages invloved in building the chassis as well as details such as the windows, lights, vents, petrol caps and engine parts etc. We will then move on to creating the wheels including tyres and hubcaps before going on to building and incorporating an interior, namely the dashboard and seating. The series will proceed with a section on creating and applying materials for the numerous parts of the car such as the paintwork, chrome, rubber and glass before concluding with a tutorial devoted to setting the scene for a finished render. This final part will cover the importance of a good lighting rig and light parameters, as well as the importance of a camera and the integral part that the rendering settings play in showcasing the model for a portfolio.



3DSMax Version Page 171



Cinema4D Version Page 177



Lightwave Versions Page 191



Maya Version



Softimage XSi Version

PART 6 - THE MATERIALS & **FINISHES** 

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#### BEGINNER'S GUIDE TO ZBRUSH PART 5

#### CREATED IN:

7Brush

#### INTRODUCTION

Now that we have our forms blocked out from the previous articles, we can now move onto adding some finer details to help bring this bust to life! Load up the model that we've been working on so far and set the Slash2 brush as your active brush, with the dots stroke selected.



It's time to start taking into account human anatomy now, especially now that we are in the detailing stage. While you can use a selection of alphas on your model to give it some skin detail, the problem I personally have with this is that anyone with the same set of alphas as yourself will have a similar look to their models. So I prefer to detail by hand and use only default alphas available in ZBrush itself, for a couple of jobs here and there. The plus points of this are that you end up with a unique look to your skin texture, and it's also very good practice (Fig.01)!

One area of anatomy that I do want to cover,



at least in passing for those of you unaware of it, is the pectoral muscles that fan out in 5 sections from the clavicle (collar bone), all the way down the sternum. In our model we will be exaggerating these quite a bit to give a more interesting look to the chest area. As mentioned before in this series, the better you know your anatomy the more you can use it to bend and shape it to your will and create believable-looking models (**Fig.02**)!

#### ABREAST OF THE SITUATION

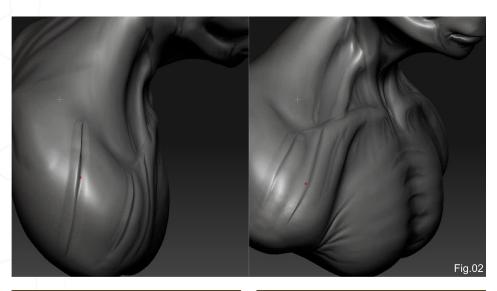
With your Slash2 brush active, start to make some very light lines where these 5 sections join to the sternum. Once done, wash them out again about 70% by smoothing out, holding down the Shift key. We need to start taking into account where the skin will fold and be under



stress so that we can add folds in these areas. This isn't a simple concept to grab at first and comes with practice and observation. There's no "short cut" to be totally honest and it's something every organic artist is always striving to improve (Fig.03)!

So start to hunt out areas where the skin will stretch from one area to another, or be under stress, and use your Slash2 brush to add some stress wrinkles to denote stretching skin. Areas that I added these wrinkles to include the area where the 2 sections of the clavicle come together, where the skin stretches near the sternocladomastoid, and the centre of the neck. Now make some deeper slashes to show the different sections of the deltoid muscle. In most humans this isn't very visible, unless they've done some quite heavy training. But in this case, as it's a creature we're making up, we are allowed to go as nuts as we like! After essentially 'dividing up' the deltoid, smooth things out again a little to help the forms to work together (Fig.04).

Add now some slashes on the back of the neck to help us give the impression of folding skin under compression. We can work on these further, although in the case of this model, as it's meant to be seen front on, we'd be doing this only for practice. Add more light slashes to denote the stretching and movement of the skin down the spine area and around the shoulder



blades. Try to imagine where the skin will be compressed or stretched. Feel free to stand in front of a mirror and see how your own skin moves as your body is in different poses. You may feel strange doing it at first, but it's surprising how often your own body can give you more information than any anatomy book. You are your own 'life model' that's available 24 hours a day, 7 days a week (**Fig.05**)!

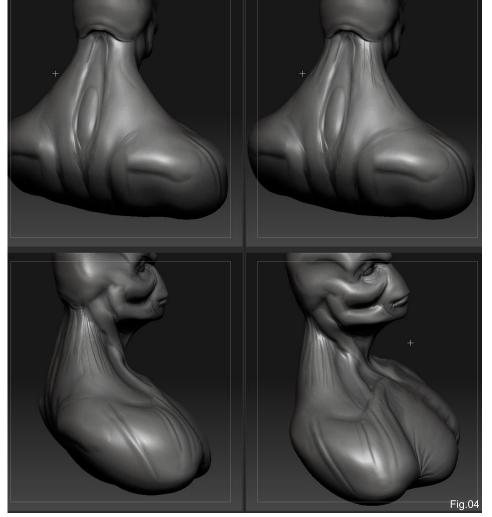
Continue to work your way around the entire torso and neck area adding these stress wrinkles until you're happy that they look 'right'. Take special care in the area where the pectoral feeds under the deltoid, as you can add some nice wrinkles and folds in this area.

#### HEADS UP!

Now we've started to add some early details to the torso (and are by no means finished with it yet!), we can also make sure that the head area is just as detailed to keep things in balance. I personally prefer many times to "nail" the head area – personality and looks-wise – as it gives me lots of ideas and information as to what sort of look the body area needs. But keep in mind that every artist works their own way to achieve the look that they personally want as part of their style (**Fig.06**).



The first area I want to address to give the character... well, *more* character, is the eyes. At the moment they are a bit too wide open and surprised, so use masks (as detailed earlier in the series) close the eyes a bit to give him more of a mean look.



One of my "secret tips" is to not only take inspiration for eyes and 'eye poses' from humans, but to also be sure to look at animals... You'll be surprised how much more 'human' an animalistic eye pose can make a character! Hold down Shift + Ctrl and left-click on the head area to isolate it (thus making things easier for us to work with). Right now the face is still effectively just a number of sections that do not meld into one another at all and needs a fair bit of work to tighten it up. So take your clay brush with alpha 01 and start to melt the lower eyelid into the cheekbones area a little more. Far too often, sculpts (including my own) can end up looking as a collection of facial parts taken from a shelf, and not like a living breathing being. This is often due to them not working in unison and no effort being made to working out how one part would affect the skin in another part. So in this case the cheek bones have rather

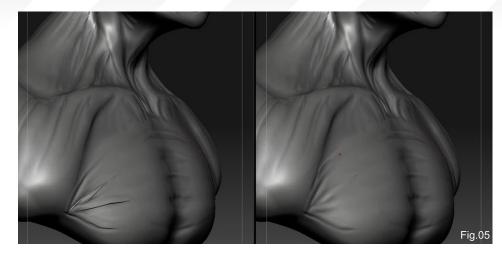
#### ZBRUSH The Total Beginner's Guide to

taught skin, so this will naturally pull the skin a little tighter over the bottom lids. This way we won't have as big a chance of large, droopy eye bags (Fig.07)!

Switch to your elastic brush with alpha 27 selected and switch on "lazy mouse" by hitting your 'L' key. Start to draw a line (while holding down the Alt key) around the insides of the upper and lower eyelid. We do this as a sort of an illusion, to add some shadows and highlights to simulate the look that you get by the many complex forms in the eyelids. As this is a beginners guide to ZBrush (added to which an in-depth study of the eyes and eyelids would take a long time and a lot more space!), on this occasion we'll use a number of optical illusions and shortcuts. As you learn more about ZBrush and digital sculpting, you'll use these less often, unless you are speed sculpting (Fig.08).

Drag some lines out from each corner of the eye as this is always an area where skin is under stress. We blink and move our eyes a lot in a single day, so as a result the area is one of the first to form wrinkles. Add a few lines above the eye to let us make them into skin folds later on in the sculpting process.

This time we're going to use an alpha to help us – it's one we'll be using a lot in the rest of these tutorials and one I find very useful for skin detailing! Alpha 58 is simply a number of wavy vertical lines, but combined with the Freehand stroke type and any of a number of the brushes, and you have some instant fine wrinkles! So set your ZSub to about 54 on your elastic brush and









start to drag out some fine wrinkles. Start with the eyes before moving on to the area where the brow meets the nasal area (Fig.09).

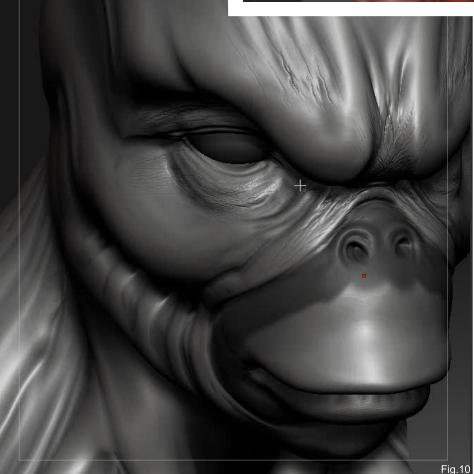
Please make sure that you follow the direction of the skin. Skin, like a tree, has a "grain" – go against it and it will give you nothing but badness! However, work with the flow of the skin and the anatomy and you'll get mush better results each time. Work between the brow on the fine folds there, as well as the main folds on the brow itself.

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The details we'll be adding from now onwards can be hard to see in a screen capture, so I've again changed to my favourite 'B+W' matcap I made an age back. (I'll make this available along with the video once the series is complete. One word of warning is that all Matcaps can exaggerate the forms, so take care not to rely on them too much for your sculpt to look good!) When using Alpha 58 and a freehand stroke, try to very slightly change angles and go over the same stroke again. This gives a wonderful celllike, almost cross-hatching effect to the skin that is easy to do and looks much more impressive than it actually is to do. Later, we'll go over the entire sculpt's head using this same technique, so bare that in mind for a later article (Fig.10).

Mask off the nasal and mouth area and slightly inflate around it to add more of a feeling of skin folding over the edges of it. As he is a sort of a 'birdman', my idea was that this area would still





be somewhat hard, like the beak on a bird, and so skin would fold around it. Using the Standard brush, carve out some very wide and very shallow curving lines to help with the main form of the 'beak' area. These will not be very visible in the images as I am talking about a very subtle (but very important) look.

Unhide the rest of the body of the model and, using the smooth brush, start to smooth out any areas that you feel need either to be merged in better with the surrounding anatomy, or that do not work. Be ruthless: sometimes you have to give up some part you like for the good of the model (Fig.11)!

Now that we are getting towards the end of this section of The Beginners Guide to ZBrush, let's make those spheres we're using for our eyes look a little better, eh? Take one of the eyes and subdivide it to level 4 to give us enough polygons. Then select alpha 12, which is a sharp-edged round alpha, and the



Drag rectangle stroke with the Standard brush selected (you can also use the layer brush for this turned very low down). Using a ZIntensity of 14 and in ZAdd mode, drag this circle out in the centre of the eye. I should warn you that the chances of you getting this bang on the money first time are slim, so have your Ctrl + Z undo shortcut keys handy! This gives us a nice effect on the shape of the eye itself and provides us with some nice highlights. Like a lot of things in digital sculpting (and traditional sculpting), subtle things can really help with the look of a sculpture.

You are now free to either mirror it across using either the method we used in one of the earlier articles or even the subtool master plug-in that is available free from Pixologic. But if you are more confident you can simply 'eyeball it' (pun intended!), and do it by hand on the other eye (Fig.12)

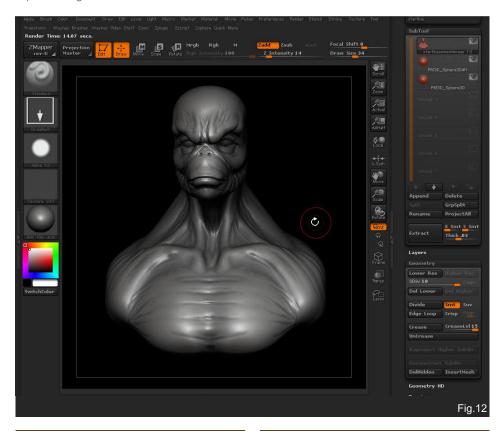
Now that it's time to wind up another section of this beginners guide, I'll point out that in the next (and last) two sections, this model will suddenly get a lot more detailed. So far I've

outlined what amounts to (for me) 38 minutes work. Although the parts we are to do in the last two articles take up the same timeframe, they are much more repetitive and hence a lot easier. So practice what we've done so far and keep experimenting!

#### Wayne Robson

For more from this artist visit: http://www.dashdotslash.net Or contact:

wayne@dashdotslash.net



#### Learn Animation from the Best in the Business







#### Making Of ALFA ROMEO COMPETIZIONE C8 SPYDER STUDIO

## **Alpha Romeo**Competizione C8 Spyder Studio

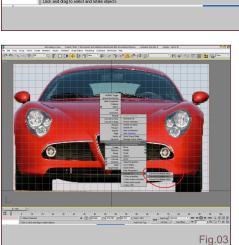
#### CREATED IN:

3ds Max

#### **INTRODUCTION**

The project, Alfa Romeo C8 Spyder, started as a personal challenge in order to improve my modelling techniques and final renders. The modelling of cars has always attracted and fascinated me, and this is what I specialise in. I have created some car models and the treatment of each finished model is better than the previous one.









didn't really take me too long as there are lots of very good images on the Internet. Despite this, I couldn't find any pictures of the Spyder model itself and so I had to use pictures of the model with a hard roof instead. From all the reference material I had gathered, I selected three images in order to create the "blueprints" from which I could begin the modelling phase.

I choose this model for this personal project because, from the very first

#### **MODELLING**

I began by putting the blueprints into the viewport: front view, side view and rear view. I did not have an image of the top of the model of my



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### ALFA ROMEO COMPETIZIONE C8 SPYDER STUDIO Making Of



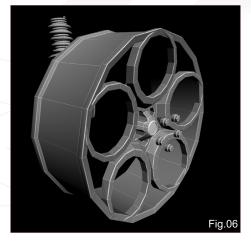
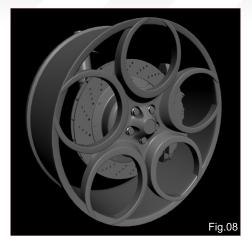


Fig.07



choice, so I had to model this section of the car without using any references (Fig.01).

All parts of the car were created using the polygonal modelling technique, starting from the front bumper (Fig.02). I began with a plane of a single face, converted to Editable Poly (Fig.03). The plane was placed in front view and, selecting the edge side, I started to extrude along the lines of the car, following the blueprint in front view. With the upper edge, I took this upwards toward the hood of the car, so I was shaping the body of the model (Fig.04).

All parts, such as the bumper, doors, and windows and so on, were exactly the same shape: a one-sided plane that, once turned into an Editable Poly, allowed me to extrude the edges and shape the basic form of the objects, and then add the details (**Fig.05**).



Fig.09

For the modelling of the tyres, I tried to spell them out as much as possible by giving more attention to the small details, such as the brake disc and bolts. As a personal touch, I always exaggerate the size of the wheels slightly, with the purpose of further accentuating the look of a sports car (Fig.06, Fig.07 and Fig.08).

For the lights, I used the same procedure and level of details in order to achieve a good-looking appearance (Fig.09 and Fig.10).

And so, I proceeded in the same manner until the end of the modelling process (Fig.11 and Fig.12).

#### **TEXTURING**

Once I'd completed the whole modelling process and was satisfied that I had achieved my main goal (which was the detailed modelling of the car), I proceeded to apply the materials in V-Ray – all of which are very simple, with little "science" in the preparation of them. I began



#### Making Of ALFA ROMEO COMPETIZIONE C8 SPYDER STUDIO

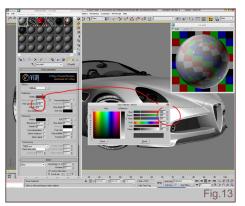
with the car paint - the values that I used can be seen in Fig.13. For the rims, the values are shown here: Fig.14. The brake calipers have an image on the diffuse as well, as shown in Fig.15. For the sidewall, I generated a map drawing in the bump (Fig.16).

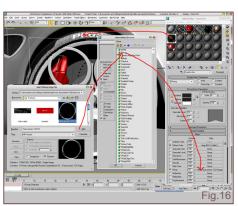
The material for the chrome headlights had to be very reflective, with values in the Refl. glossiness box at 1.0, and Subdivs at 50 (Fig.17).

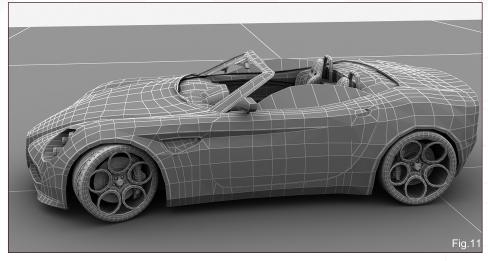
For the mesh of the front air intakes, I used a standard Max material with the following values, plus an opacity bitmap to create holes (Fig.18).

Another relevant material present in the scene was the floor, which was easy to make with a standard Max material, these values: diffuse white specular level 0, glossiness 10, and a reflection VrayMap.

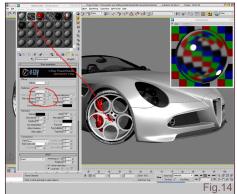
So as you can see, the texturing is very easy to do. Any other materials that I used were standard Max and modified in the diffuse and glossiness levels.

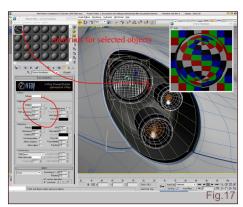


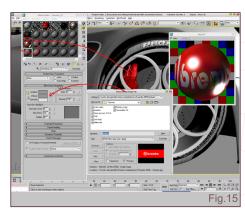












#### RENDERING

Let's now turn to the final part of the preparation process and render the scene! The idea was to create a kind of studio environment, like some brands of cars do in order to shoot their cars.

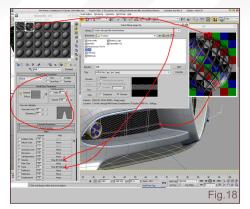
To generate the environment I used a ramp gradient. In the Materials Editor I applied the degrading ramp and gave it an angle of W90 degrees in the co-ordinates. In the Gradient

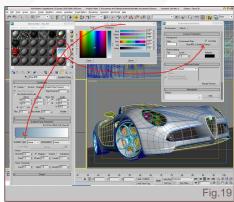
### ALFA ROMEO COMPETIZIONE C8 SPYDER STUDIO Making of

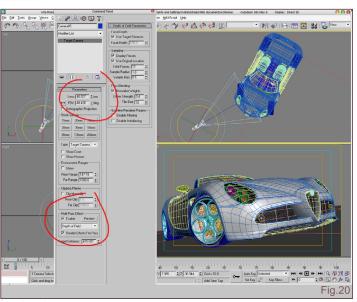


Ramp Parameters I set the colour from blue to white, as shown in the image (Fig.19).

The placement of the camera in a low position, with a small angle of inclination of the box with depth of field, achieves the blurring that we can see in the final render (the target distance depends on the amount of blurring that we need) (Fig.20).







I added a V-Ray light to help with the lighting setup; I set the value in the multiplier to 2.7 and sampling subdivs with a value of 256.

For the rendering process, I chose V-Ray as my rendering engine because it's very fast and yields excellent results! For the anti-aliasing filter I used a combination of adaptive subdivision and Ron Catmull, but this depends on each according to the GI. I selected a combination of Irradiance Map for the Primary Light bounces, and Secondary Cache bounces, which I used to obtain correct results with Global Lighting.

The post production for the final render was done entirely in Photoshop. Basically, it consisted of a small colour correction and that was all!

I wish you all good health and good luck with your own 3D projects. Thanks for reading!



#### ARTURO GARCIA

For more from this artist visit:

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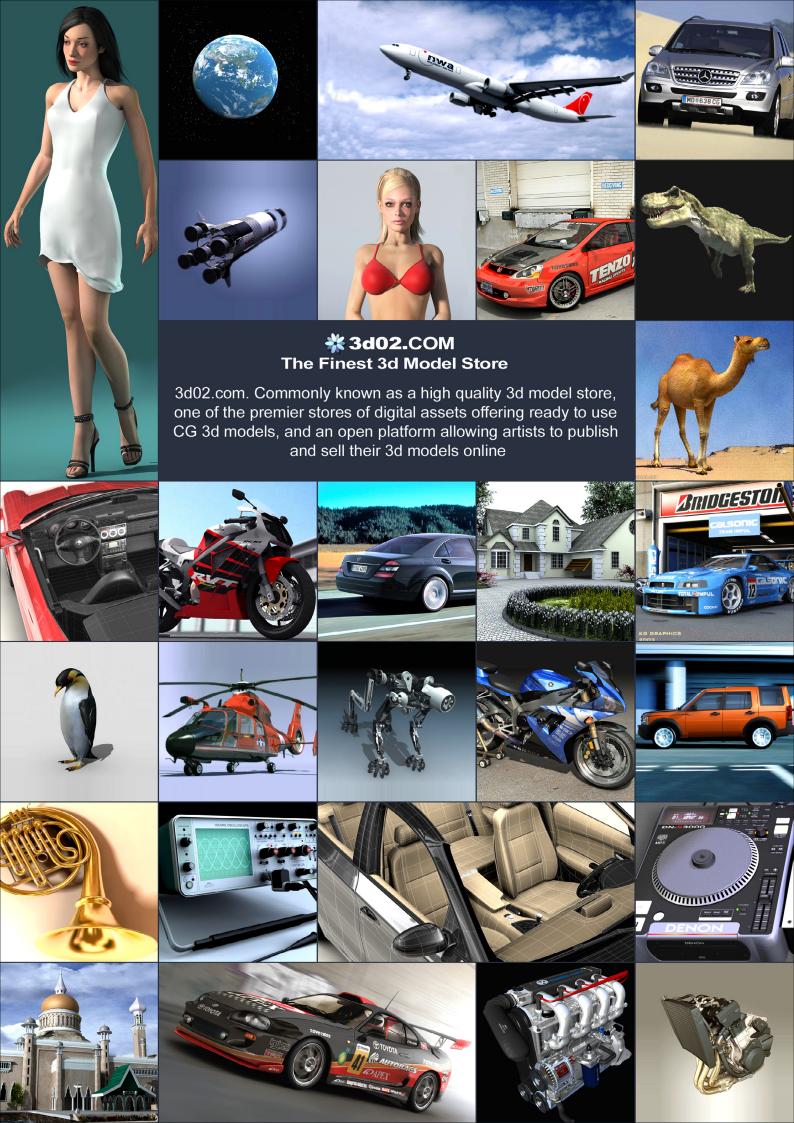
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# FOID making of by Paslea Paul Making of by Paslea Paul Making of by Paslea Paul Making of by Paslea Paul

Fastback '65



America's iconic

muscle cars. Read on

to see how he used

3ds Max to create it ...

Canf

#### Ford MUSTANG Fastback '65

#### CREATED IN:

3ds Max, V-Ray & Photoshop

#### **INTRODUCTION**

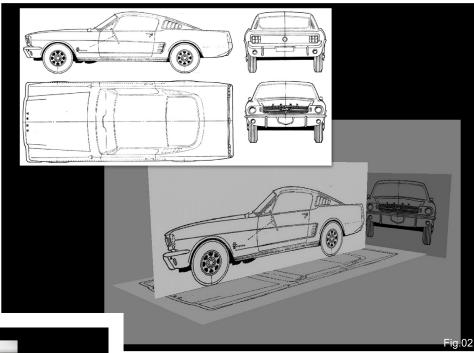
I decided to work on the Ford Fastback because
I love the classic look of the car, and that is what
I wanted to achieve – a feeling of class and
style. I had a rough idea in my mind of the final
image, the colours, and a studio render with
maybe some different camera angles. But it was
really the process of creating the car and trying
out different things that led to the final result that
I am talking about today.

I hope you will like this making of, and perhaps you'll find something interesting in it for yourself.

#### **GETTING READY!**

The most important thing when doing a car model is to collect as many reference photos as possible (Fig.01). Finding the correct blueprints is very helpful and setting them up is pretty straightforward (Fig.02). Someone once asked me about good image reference sites. There are many good reference sites, but for this particular project I used photos found on the web just by searching on the different car selling sites, and searching on Google. These photos helped me a lot in my modelling and texturing, because of some great perspectives and close-up shots (Fig.03) that cannot be found on reference sites.





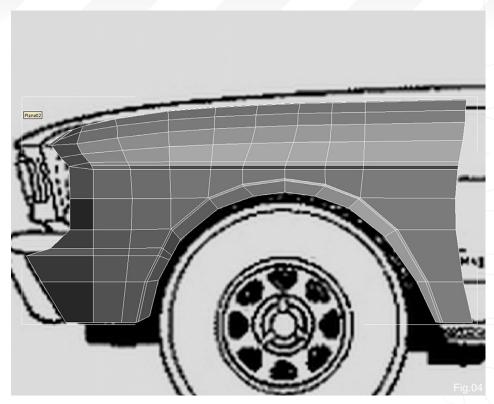
The search for good reference photos can take a long time, but believe me it really pays off in the end.

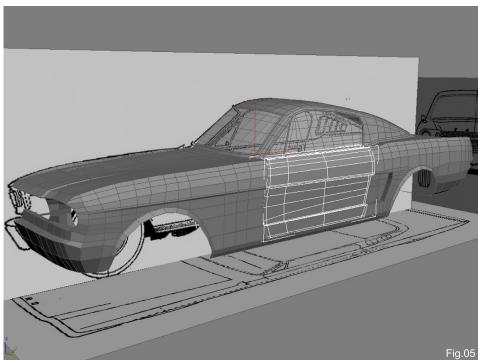
#### MODELLING

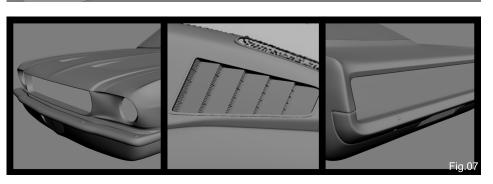
When it came to modelling this car, I used a classic approach: polygon modelling. I started from the exterior of the car and worked through to

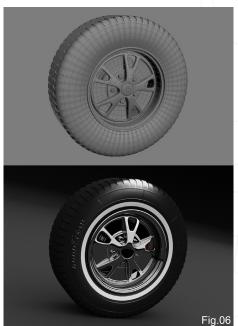
the interior. Most of the objects and elements of the model were mesh smoothed, and I used symmetry for most of the elements of the car, with some exceptions for a few of the interior elements.

For the body of the car, I started with a plane from the side and worked my way from there (Fig.04), always checking my reference images (I think there were about 400 in total!). My approach was incremental; making a basic model (Fig.05) and then adding details. After finishing the basic body I moved on to the tyres (Fig.06), which I modelled separately (starting with a part of a cylinder for the rim, and an array of tyre segments with a bend modifier applied to them for the tyre), and then merged into the scene. Then I added the side vents and the front and rear bumpers (Fig.07). The front and rear





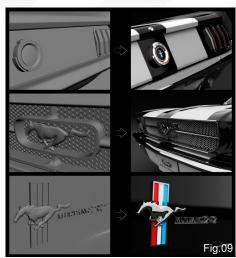




lights followed (Fig.08), which I modelled from a box and then applied extrude, insert, connect etc. In Fig.09 you can see the rear emblem, along with the front and side emblems, which were made using a basic mesh from Max, with some features of the emblems added in ZBrush. At this point I added the underside for the main body and I also started to add details to the body and doors, and to the exterior of the car in general (Fig.10).

The interior was fun to do, and having the different reference images really helped me to understand how the interior actually looked. I approached the modelling of the interior in the same way as the exterior, starting with the basic object and then adding details like nuts, gauges, rims, interior lights, vents, brakes, a radio, and so on, and adding pieces like the wheel, main console and the door's interior. Because the seats are the dominant element of the interior, I decided to detail them a little in ZBrush. Finally, I added some brakes, suspension and some general elements under the car, and then made some tweaks here and there. I was then finished with the modelling at last (Fig.11 and Fig.12).

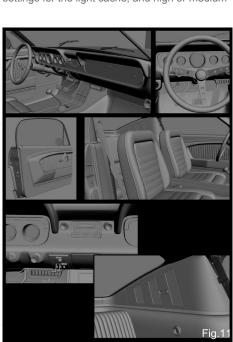


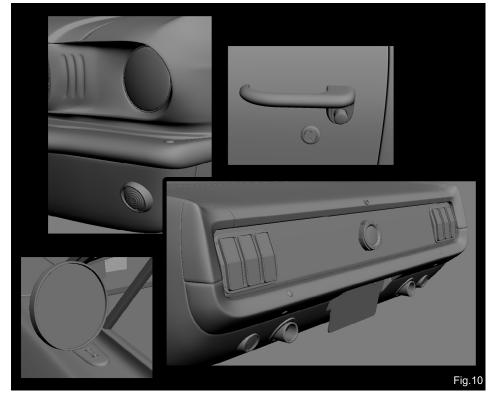


#### LIGHTING

For the lighting I used a basic setup of three V-Ray lights, two plane lights and a dome light (Fig.13). I used a circular environment because it offers good bouncing light and can be very useful for certain camera angles!

The settings that I usually use for previewing the different light conditions, reflections and textures can be seen in **Fig.14** and **Fig.15**. I usually use an irradiance map for the primary GI, and light cache for the secondary bounces. Using low settings for the light cache, and high or medium





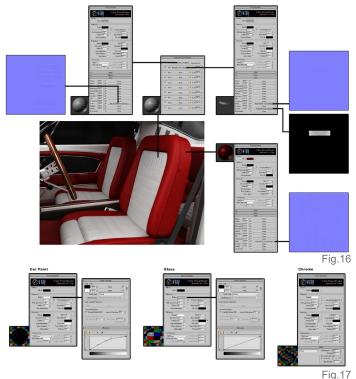


presets for the irradiance map, usually yields a quick and decent preview. This method is good for static images, but not so good for animations because of the flickering that might appear in flat surfaces due to the way the irradiance map works.

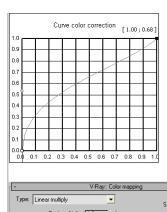
#### **TEXTURING**

The texturing part was interesting because I had the opportunity to use the UVLayout program to do the UVs. I like this program a lot because it is easy to use (although at first it might seem a bit weird), and has a lot of great features. I strongly recommend you try it out!

Most of the objects in the scene have normal V-Ray textures, and the different texture maps that I used were edited in Photoshop. I used plane, box and cylinder UV-mappings. The seats, were exported into ZBrush for detailing, piece by piece.







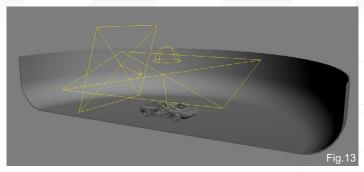
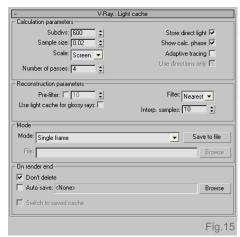


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I had to export the mesh from Max as an .obj file to import it into UVLayout. I edited the UVs, exported the model to an .obj, imported it into ZBrush and, after putting in some folds, I finally exported the model back to 3ds Max with the appropriate normal maps. The texturing was not that special on the seats; I used the normal maps from ZBrush and normal mapped horses (Fig.16), which I took from a reference photo and created a normal map with CrazyBump. I was planning to use a texture map for the seats, but after some test renderings I realised that the differences between using a texture map and just using a diffuse colour were close to none.

#### Rendering

Rendering was a pretty straightforward process. The important thing to note here is that in V-Ray gamma correction is useful because of the way that V-Ray outputs images in non RGB colour. For this project I used these settings (Fig.18) for the colour correction. For most projects, however, a colour correction of 2.2 in the colour mapping rollout should do, or setting the colour correction curve like this should fix it equally as well (Fig.19).

The hard part was finding a good camera angle. After spending some time going around the scene I found some camera angles that I liked, but the ones from Fig.20 and Fig.21 are my favourites. After I found the camera angles that I wanted to render, I just pumped up some settings in V-Ray and set up the anti-aliasing and filter settings (Fig.22). And that was it!

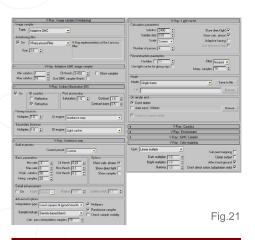
Clamp output

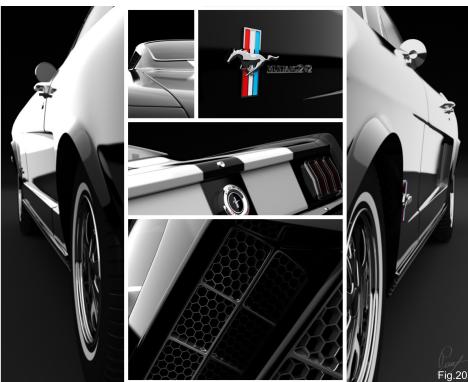
Don't affect colors (adaptation only)



#### POST PRODUCTION

For this image I did very little post production work, mainly because of the colour corrections that I applied in V-Ray. Post production was limited to simply blurring some areas, editing some reflections a little and also adding a signature.





To finish, I would like to say that I really loved working on this model, and hope that you have enjoyed this "Making Of". Thank you for taking the time to read it

#### Pâşlea Paul

For more about this artist please contact

them at:

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Pauf











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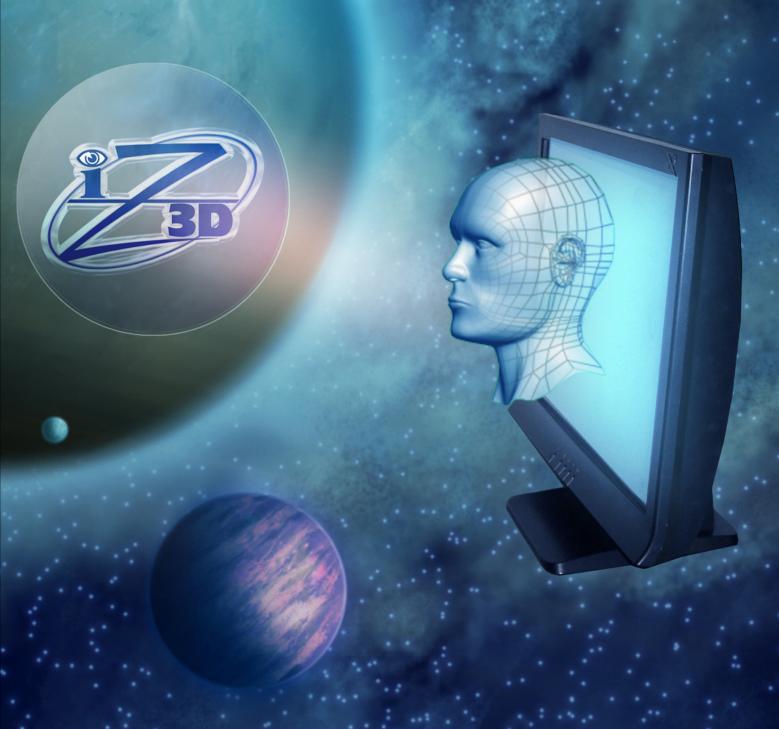
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## making of SUPPPISE!

#### CREATED IN:

ZBrush and 3ds Max

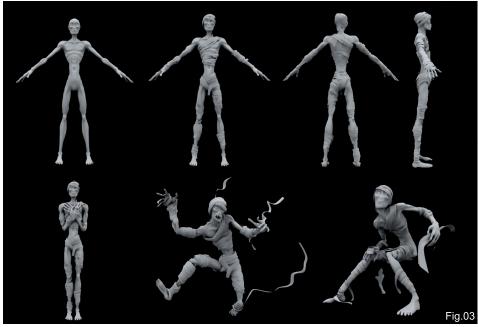
#### THE IDEA

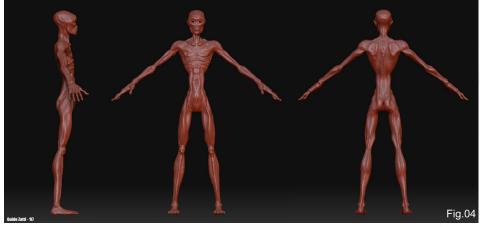
The general aim that I had for this project was to create an interesting and funny character, but at the same time to emphasise that the situation that this character found himself in wasn't the normal ones that you would expect for such a character. From this aim came the idea of creating a realistic mummy, but one that's not too scary, and using him outside of the serious and terrifying situations that mummies tend to always be thought of in. I wanted to show my mummy in typical daily situations and one of the first that came to my mind was the mummy tripping over its own bandages.











#### REFERENCES

Before starting on the creation of the mummy, I thought it would be a good idea to look for images that could give me interesting ideas, that could be reinterpreted and that I could take inspiration - not only for the shape but also for framing, lighting and everything else that an image can communicate. And for that I went to Google for an image search! (Fig.01 and Fig.02)

#### SURPRISE! Making Of

#### MODELLING

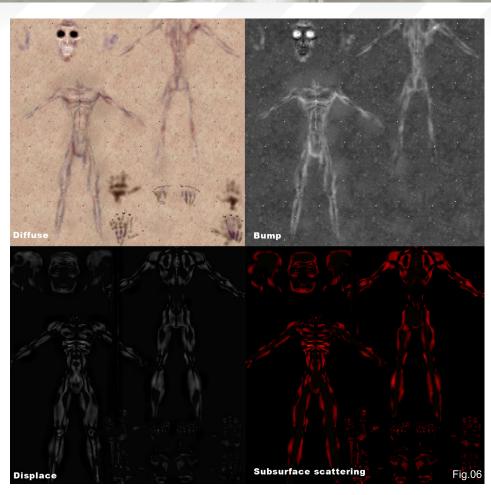
For the modelling I started with very simple forms and added the details later on. Usually I'll start with a cube or from a single face in order to create the base geometry with as few polygons as possible. In this way you can keep the mesh of the model in order (Fig.03 and Fig.04).

Little by little, I was working towards a low poly humanoid figure. I then had to define the points at which it was going to be deformed, once it had been rigged. For this, the edge loops are very important (for example: in order to arrange an elbow to react correctly at every point once it has been bent). Another very important thing is that you have to maintain your model as "all quads", meaning that all of the polygons of the model have to have four sides. This is useful for the better handling of the rig and for a better compatibility between the various sculpting programs.

Once I had finished my model I exported it as an .obj file so that I could handle it in ZBrush, and so I could paint all the veins and muscles and all those other things that would be very difficult to create in polygons.



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After getting to the level I desired, I then exported a displacement map and applied it to the mesh which I had modelled earlier. In this way you can obtain a light model in the rigging and animation phase, but at the same time you can get a very high detailed render. Another advantage is that you can modify it very easily with the photo editing programme of your choice.

#### RIGGING

As far as the rig was concerned, I used biped by Max, which is really good for humanoid forms. The big difficulty was creating the bends in such a way that they could follow the model without going crazy. Therefore, in the rig, I had to spend a lot of time weighing all the single unmanageable vertexes, using lots of skin morphs to handle difficult situations (Fig.05).

#### Texturing

Thanks to Unwrap (which is made to manage the sculpting programme), I changed to a

photo editing programme to paint the textures that I needed, at the same time always being in Multiply to correctly follow the shape of the model which had been developed (**Fig.06**).

Useful textures are: "diffuse", "specular", "bump" and the one obtained from the sculpting of the "displacement". The "diffuse" is the level that is going to draw the skin of the character; the "specular" is useful to define the points in which the shader of the model will reflect more or less, based on a grey scale — even if one sometimes uses a lightly blue-tinted gradation to give a major reflection effect. The "bump" is the map which forms, always with a W/B scale, a little roughness on the shader, which was very useful in order for me to give the impression of skin that was aged.

#### SHADER

The shader of the skin was realised by trying to maintain certain features, like the dryness of the mummy's skin, but also the funny and cartoon-





like appearance that I wanted him to possess. I therefore tried to maintain a high level of SSS (subsurface scattering) to take away the seriousness of the character and to give him a certain solidness at the same time.

I had to go through a lot of trial and error before being satisfied with the result. The real challenge was being able to give it solidness without creating horror-like details. The secret was rendering it translucent, just like the cartoons, and adding lots of specular and light strokes to let certain areas emerge.

#### MORPHING

With the model finished and textured, I made a series of morphs, cloning the main mesh and



giving each clone a different detail, such as closed eyes or a smiling mouth. All of these features gave "life" to the mummy! (Fig.07)

#### LIGHTING - 1

In the first image I created a classic situation in a pyramid, but with a less darkness and friendlier light coming in from the right (a direct yellow light played with the classical feature and



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the less well-lit area was blue). Of course, I also tried to give the entire scene an orange tone in order to communicate some cheerfulness through the situation (Fig.08 and Fig.09).

#### SITTING & FRAMING

In the second image I wanted to create another "impossible" situation! I wanted to show an embarrassed mummy in the bathroom as if being spied on by a person at the door, which is why I used a wide-angle framed shot.

Fortunately, the rig managed very well, even in this scene in which the model tended to have problems with the pelvis and legs in particular. I think it is very important to try to avoid symmetry. The eyes have to be able to roam around the scene, always finding new things (like the crooked feet or his bent back) (Fig.10).

#### LIGHTING - 2

I put some planks in front of the light coming into the bathroom as I wanted to break the light up to create a shadowed effect and create a more interesting composition. I also added a blue light, with decay activated, to light up just a point and not the entire area (which was very difficult!) I then added more brightness close to the observer, just to create a snapshot-type effect (Fig.11).









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#### **3dcreative**

#### ENVIRONMENT

I prefer an environment to be rich in details, instead of a classic, clean 3D interior. I looked for references for bathrooms and tiles and as I was able to find ones that I was happy with, I chose to model them rather than use a simple bump or displacement map. This gave me better control over the reflections.

Also, in this case, I wanted to take a tile away or dirty another one with various textures, so that I didn't end up with too much symmetry (as explained before). I later added some water, just to have more reflections and strokes of light.

#### Render

I did the render in many steps, starting with a beauty pass of the environment. Next came a beauty pass of the mummy, then ambient occlusion, specular, Z-depth (to simulate the depth of field), and then many further steps in which I stressed or decreased reflections and strokes of light.

The ambient occlusion was very useful in the environment and was vital to the character because it stressed the model and created



all the little shadowed areas which would get lost in the main context. I used a 2000 x 1600 resolution but, thanks to the various phases, every step was shorter than five minutes to render (Fig.12, Fig.13, Fig.14, Fig.15, Fig.16 and Fig.17).

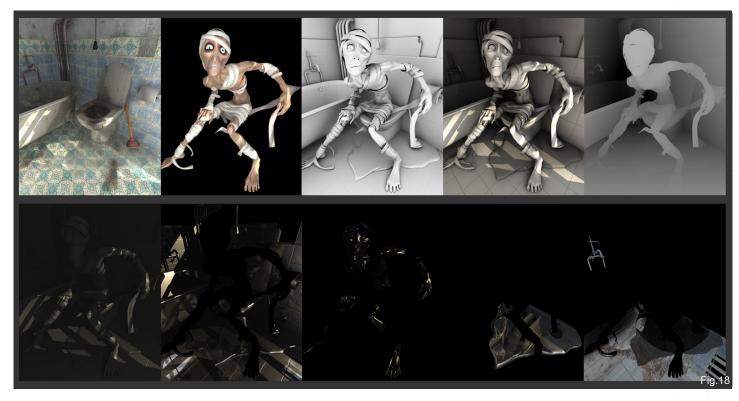
#### **COMPOSITING**

After all the rendering it was time to start compositing the image with photo editing programmes, such as Photoshop, unifying all the levels and weighing them out as I liked.



The ambient occlusion had to be rendered in Multiply, and I kept it to a percentage of 60% so as not to weigh the shadows down too much. I then duplicated the beauty pass and inserted it blurred in Screen mode, distressing it a little to light up some areas up in order to give a "burned film" effect (Fig.18).

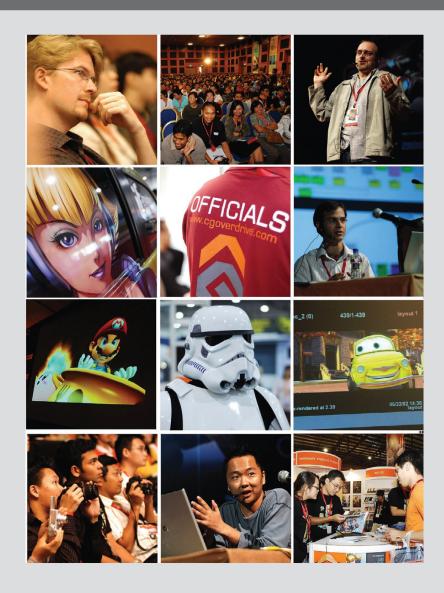
The compositing can change an image very deeply, and it's up to every single person to use it in the best possible way!





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This month we feature:

"Wings Up"
by Hrvoje Rafael







#### Wings Up

BY HRVOIE RAFAEL

Introduction

my modeling skills. At the time I already had a couple of years of experience with CAD software but little with "ordinary" 3D packages and solving on from one to another is actually harder than it might second at first. Both are used to create and render 3D models, but require differen approaches. Parametric modeling that CAD packages offer is a very expressive. Parametric modeling that CAD packages offer is a very expectative. Parametric modeling that CAD packages offer is a very approaches. Parametric modeling that CAD packages offer is a very approaches. Parametric modeling that CAD packages offer is a very approaches. Parametric modeling that CAD packages offer is a very approaches. Parametric modeling that CAD packages offer is a very approaches. Parametric modeling and the very service and something about polygon based modeling and subdivision it was clear to me that there is a lot of potential in it. I just didn't know how much. The best way to know normaling is by origin, a to a feedled to do converbing Beng somewhat of a virtage car lover, the decision was made to do a Onliving. It is not just a car list sinque deep mades it stand out in the coved and it is bound to be instantly recognized by both car enthusiation and people who are interested in diseign of any kind. This proved to be a good othoric broasse there is less chance of this kind of work being dismissed by a viewer a just another car (and their really are a bot of cars in the world of CG).

Preparations and Modeling PREFARATIONS AND MODELING
There is little place for statisc feedom when making a model of something that exists, so it is not necessary to start with concept searches unless outside bulgerists are available. However, it is essential to conduct proper research not the subject, planking as much reference material as possible. Basically fiver is no such thing as to much reference. It can include any picture of the selected subject — photographs, sketches, blueprins, dargams etc. Photos are usually the most residue and they should be used to other, if there are any mataties in bulgerists or other pictures. They are also used to over all first end that the things into or other pictures. They are also used to cover all first feed that this thingprins do not also save a lot, later in material can take up a lot of time but it on also save a lot, later in the process. There is always some angle that is not covered in any individual photo (flutphy's law, I guess) but it is good to keep it at a minimum.

One last step before moving on to the modeling phase is the blueprints setup. It is not a difficult process but it shouldn't be nutshed, I was lucky enough to first blueprints which were preferred source and roll pink of course but only the course but on the course of the course providing planes which were the same proportion as the real card in rall avoid value. It is good to work in real world untils because it enables you to merge objects into scenes without having to warry about relative sizes and it simplifies use of some lighting techniques which are until based.





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The model laself is polymodeled completely. Starting with simple geometry and then out, extruded, etc. to its final shape (Fig. 01). Noting too smart, it just requires a lot of work. It is a slow and stidous process which can undoublefully give us headache but in return you get full control over your mesh. Most of the pasts are substituted on the past service which are only box modeled to avoid unnecessary increases in the

MATERIALS AND TEXTURING

MATERIALS AND TEXTURING
This model has seen at lot different naterials applied to 1 during the volution in a way, it has been my shader testhed. For this image it decided to go with a reparation of the properties of the properti





LIGHTING AND RENDERING

LIGHTING AND RENDERING

It had been trying to create a good studio environment
come for this car for some firm when, come day, I saw a picture of one photo studio setup. It was used by a
a picture of one photo studio setup. It was used by a
control of the properties of the photographer to take picture of viriage
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if was clear to me that something similar would suit
Gulwing perfectly. After some sportmenting, this setup
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a smaller light glam desert provide reflections that
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to left it go so easily. It is furn to have your own virtual photo studio and freely take pictures. I fried a number of different color schemes and angies but this one seems to represent this car the best. Revealing "spread wings" which reflect the cool, sky blue bonnet, with their districtive bulges, shows that Gullwing is a truly well deserved nickname.

The final image was rendered in one pass, so little post work had to be done in Photoshop. The only thing that was added was a glow from the light and one duplicated base layer was slightly blurred and set to 50% opposity to often some hard edges at little. To add light rendered one image without any light. The only thing that was visible was the self-illuminating light the endry blung the first off the misege with burder with Caussian Blur and used as a "lighten' layer on top of everything. And that is I. Difference between the raw ender and celled image is quitt sable but, in my opinion, it improves the overall mood of the image.

CONCLUSION

edge by writing tutorials. So I hope that I was also help someone, even if just a little.



ARTIST PORTFOLIO





3DC

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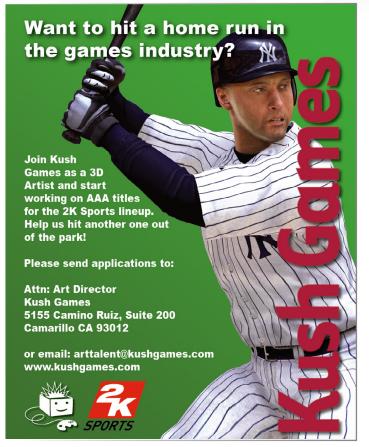


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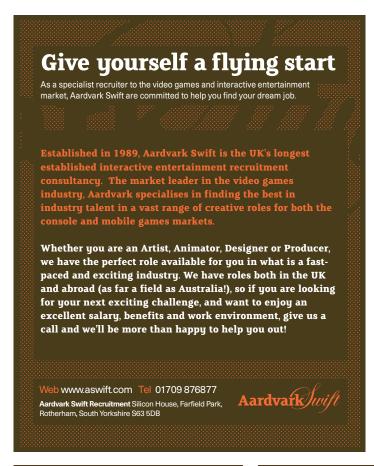
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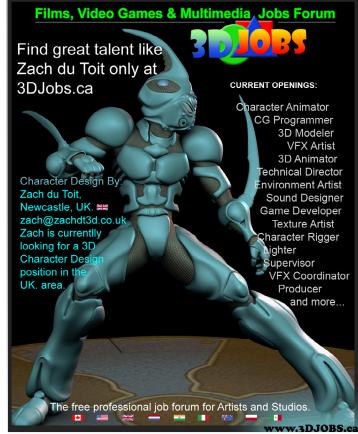
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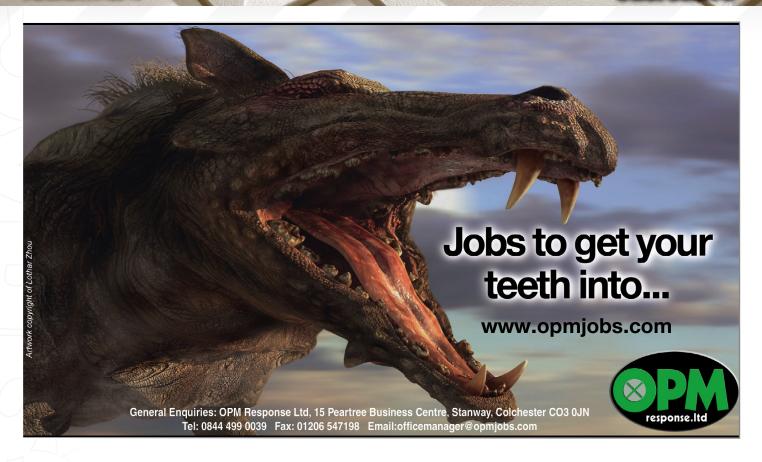














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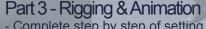




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## Bugatti Veyron car modelling series



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#### BUGATTI VEYRON PART 6: THE MATERIALS & FINISHES

In this part we will be starting off with the materials for the car; the next tutorial will cover the basics of rendering the car. I will be rendering the car using the VRay renderer plugin. The principles for the materials and render settings are quite simple and apply to all sorts of render engines, but I will be trying my best to mention quick notes for any of the users of Mental Ray.

It's usually a better idea to work on the materials and render parameters instantaneously so that you can fine-tune all the details, but for the purposes of this tutorial we will be doing the materials in the first part and continuing with the render in the second part.

This is the model we finished in the previous part and this is how it looks after rendering it in VRay with all the final materials applied. Before beginning to talk about the specific materials, please take the time to assign different materials to the different parts of the car so that the next process will be just for modifying the materials. You can select all the elements and polygons that make up the car paint geometry - detach it, give it a name and then assign a material called "paint" to it (or, as I do, you can keep all the body geometry in the same object but assign different material IDs to the different parts of the car and use a multi sub object material, this way you will keep everything organised and if you ever have a big scene you can easily find and modify your materials). For now, just assign the materials and give them appropriate names so that after you finish this you can just start modifying the materials and save yourself some time (Fig.01).

Again, for me to come up with these materials I had to test them with the render settings as well, but for now you can simply apply these materials and later on test them with the render, and if there's anything you don't like you can





change it later. For the car's exterior, we can easily focus on a few materials to get the look we want; the main materials are probably \*paint, chrome, plastic, tyres and glass. (\*The paint material is obviously the most important one and the reason most of you are reading this!)

Rather than just give you the material settings or attach the materials, as I know a lot of you would like just to have the material files and start using them, I want to note the main things that you should look out for when creating any car paint material, and the principles in general.

#### IMPORTANT FEATURES TO NOTE IN CAR PAINT MATERIALS:

- Reflections or the reflection environment:

I know this is not fully related to the material itself, but the environment that the car is reflecting is so important that you have to always keep it in mind; for example, a perfect car material inside a bad environment will look bad, whilst a simple, reflective material in a nice environment might look much better!

- The layered nature of the car paint material: You have more than one layer of paint with different glossiness properties. You can use 2 or more layers; mainly you should have a layer

#### BUGATTI VEYRON The Materials & Finishes

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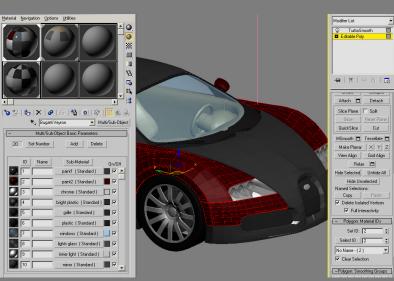




Fig 01

Fig 02

Fig 03

reflecting shiny reflections (clear reflections which aren't blurred with a glossiness value of 1, or very close to 1), and another layer reflecting some blurred reflections or diffuse reflections (with glossiness less than 1) (Fig.02).

#### - The fresnel nature of reflections:

You can observe the difference when looking at **Fig.03**: all car paints, and actually a lot of different materials, have the same characteristics.

#### - Paint speckle:

We will not cover this one in the tutorial so that we don't over-complicate things, but when looking at car paints very closely you will notice tiny paint speckles. You can add these by using a subtle bump map. A handy trick in VRay would also be to lower the settings of the reflection glossiness subdivs, which makes the reflections a bit distorted and speckled-like, and you get faster render times as well! However, it's not exactly accurate and it doesn't work out the way you want it to every time, so I wouldn't exactly recommend it, but it's good to know.

Here are the material settings I used for this render; sometimes I even add more layers to the material, but I just want to cover the basics for now. You can modify things as you go, I just want to emphasise that you need at least 2 layers which reflect things differently. It's really very simple, just create 2 materials: one which reflects almost perfect reflections and another which reflects things blurred, and try to combine them together any way you like (**Fig.04**).

If you were doing the material in Mental Ray you can simply use its standard car paint material – the settings are straight forward.

#### CHROME MATERIAL

The chrome material main recipe is very simple as well: a black material (no diffuse colour) which reflects everything (100% reflective), so it's almost like a mirror. Many of you may be wondering since it's so simple, why sometimes when you use it, it doesn't look so chrome-like...

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Well, the reason is that, as in most reflective material cases, it is the reflection environment. If you put a chrome ball in a dark environment it will of course reflect the dark environment and will look dull and boring. Put the same material in an HDRI environment, which shows the sky at day time, and it will look very much like chrome, since our perception and memory of a chrome material is similar to it.

A very good resource which I encourage you to check is Neil Blevins' website – check his CG education section and the tutorials he has, as he has an amazing way of explaining the details and theories behind some of the phenomena we observe. His website is www.neilblevins.com – please do visit it (Thanks Neil!).

Just to note: chrome materials, or materials that look very similar to chrome, might be slightly different sometimes. You can try making the material diffuse colour slightly greyish and reduce the reflectivity; if it's not polished then you can try to make its reflection blurred or add a subtle bump map, or maybe a fresnel map in the reflection slot with a very small effect. Just look at the references you have for the material you are creating and try to replicate its qualities. In general, most of the time, for doing chrome or similar materials you can get away with a black material and full reflectivity. For Mental Ray or the standard Max materials you can just use a raytrace material with the same qualities: black diffuse, 100% reflectivity (Fig.05).

Of course, plastic and rubber materials vary a lot and not all plastics are exactly the same, but the differences in the material properties between them isn't always that huge. You can sometimes give a huge variance by simply playing with the values of reflectivity and glossiness. As you can see here, I used very simple settings, but they were enough to get the look I wanted. For Mental Ray you can test using the arch and design materials, or you can use one of the ready templates or simply use a standard material with some specular highlights on it (Fig.06).

Fig 04

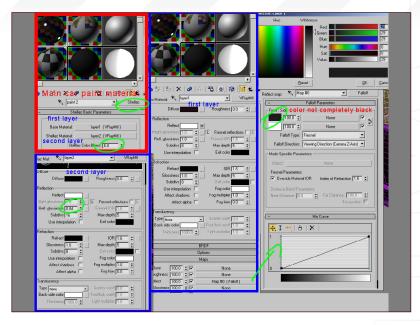


Fig 05

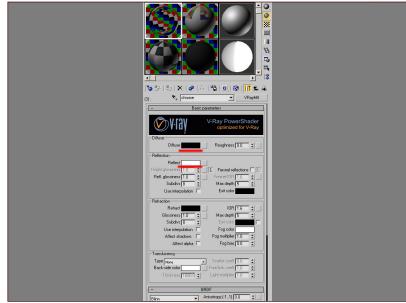
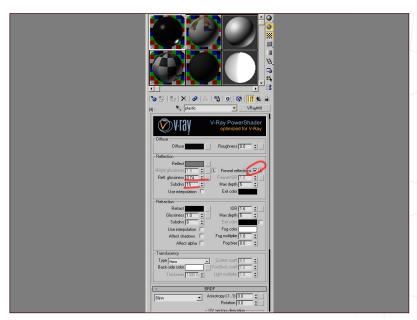
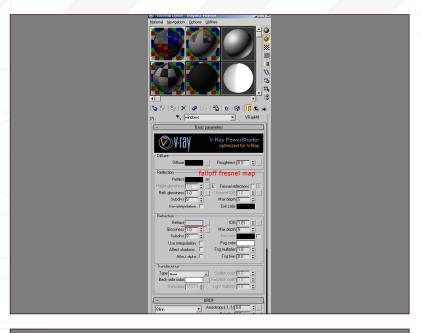


Fig 06



#### BUGATTI VEYRON The Materials & Finishes

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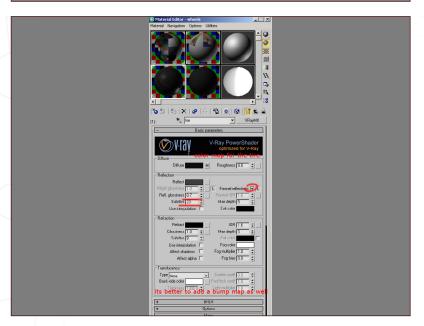


Fig 07

The glass material can be done in many ways again, the details and rules for it are very simple and you just need a refractive (transparent material) with some reflectivity. If you are using Mental Ray or the standard material you can just use a standard material with transparency value (just play with the spinner of the opacity), or raytrace materials with the same simple qualities: transparency with a bit of reflection. You can use the arch and design materials for Mental Ray, but unfortunately explaining all of the exact properties of the Mental Ray arch and design materials would need another tutorial. so for getting the most part out of them you can use the templates and see the difference and variation between different templates. You can also observe how the settings of the arch and design materials resemble, in one sense, the VRay materials, and how the main properties of glossiness and reflectivity determine how your material looks (Fig.07).

For the tyre, it's not very hard – same as everything else. The only thing to remember here is that, although tyres seem to be flat, they aren't quite flat and they do reflect. A clean tyre might even look close to a shiny plastic material in some cases, but most of the time you'll want to avoid that, so just give it a little reflectivity and make it very diffused (meaning that you'll make the glossiness value low so that the reflection is very blurred so that you won't even notice it).

Fig 09

Fig 08

It's essential to add a bump map as well, to show the details. You can experiment with using the bump map you created in the reflection slot, or the glossiness map slot, and see how it affects the reflections. For Mental Ray or a Max standard render just use a standard material with a texture for the diffuse and a bump map; in the reflection map put a falloff map with fresnel and raytrace in the white map slot, but make sure it's reflecting very little and that you have an appropriate bump because you don't want the wheel reflecting off as plastic. To make the reflections a bit blurry in Max standard materials you can always experiment by adding a noise map to the bump slot, but it's

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not too easy to get nicely blurred reflections in Max scanline renderer, so it's not a bad idea to try out either Mental Ray or VRay (Fig.08 and Fig.09).

For the rims, you can use the same material for the chrome, except that it's better to give it some sort of a grainy map in the reflection, glossiness, and maybe bump slots as well, just to make it look more detailed. For the diffuse map you can try to put any map that you think can give it some variance — maybe a falloff map with a perpendicular/parallel type can do the trick, or anything that you think might give it some variance (Fig.10).

I create different materials quite often because, in reality, rims can have a lot of different materials and finishings. I sometimes composite materials and mix 2 different materials together. There are no correct material settings, just test and see if it looks right in the scene you have.

I know you might have expected long material trees with complicated maps linked together for every material in the car in this tutorial part, but the truth is that you can achieve quite a lot with simple settings, like glossiness and reflectivity. Once you have the basics correct you can move on and complicate your material if you absolutely need to, but if you can get your render looking nice with a simple material – why not?

This is the render of the car in VRay after applying these materials (**Fig.11**).

#### BUGATTI VEYRON PART 6: THE MATERIALS & FINISHES

Tutorial by:

#### ALI ISMAIL

For more from this artist visit:

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Fig 10

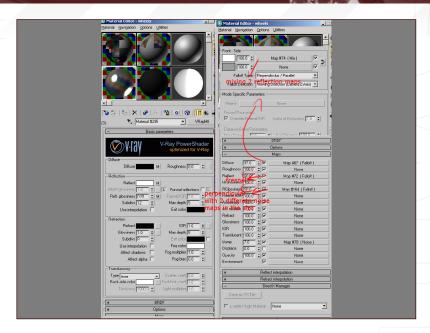


Fig 11



## Bugatti Veyron car modelling series



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#### BUGATTI VEYRON Part 6: The Materials & Finishes

In this section of the tutorial I will be covering how to create materials and textures for the interior and exterior of the Veyron.

I'm going to begin by adding a layer in the material manager and calling it "interior"; obviously this will contain all of the interior materials. You should have a vast amount of reference images for the Bugatti by now and be able to find good textures of things like the dials. (I have added my textures with this episode for all you lazy Photoshoppers! Most of the images have been acquired from Google and had some post work in Photoshop.)

Adding a texture to a polygon model can be straight forward; adding several materials requires a little more thought. For the dials I select the polygons where I want my texture to appear then I drag the dial material directly onto the polygons. Notice that the texture only applies itself to the polygons selected as it automatically adds a set selection tag on the object in the object manager (Fig.01).

I've gone on to use the same method for all of the dials and added the chrome material around the outside of the dials (**Fig.02**).

The seats will be a little more work as I want to add a leather material, which will have a leather bump pattern. The bump needs to be aligned properly on the model, but the UVs are not correct and the material becomes distorted. There is a simple way around this in version 10.5, but please search online for UV unwrap or LSCM mapping tutorials for earlier versions of Cinema as I'm unable to cover every version.

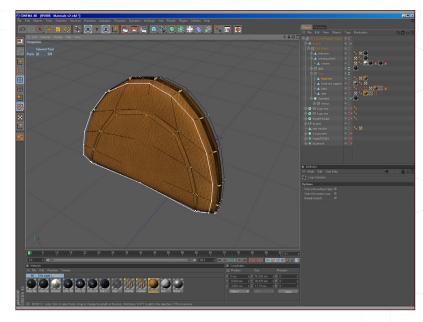
I will show the UV unwrap method on the headrest as it's a simple model and will be easier to show. First loop select the points Fig 01



Fig 02



Fig 03



#### BUGATTI VEYRON The Materials & Finishes

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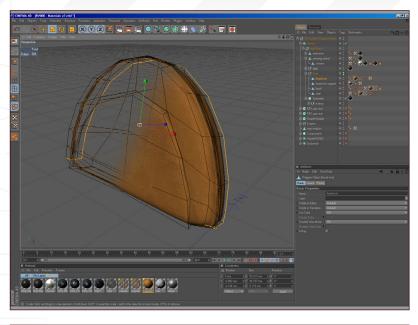


Fig 04

shown and set select them. These points will pin the UVs in place when we unwrap them (Fig.03).

Now, loop select the edges shown as these will be the edges the UVs will be separated at (Fig.04).

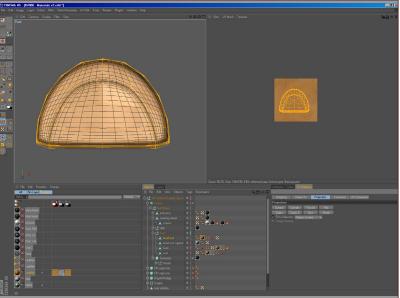


Fig 05

Enter the bodypaint UV mode and change the view to the front view (F4 shortcut). In the UV mapping manager, select the frontal button and in the texture viewport make sure the UVs are visible (Fig.05).

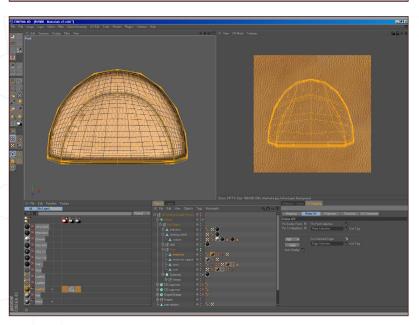


Fig 06

In the relax UV tab, tick the pin points and cut edges boxes. This will automatically select the set selections created earlier, unless you have changed their name beforehand (if so you will need to drag and drop each tag to the corresponding section). Select the ABF relaxation mode and click apply (Fig.06).

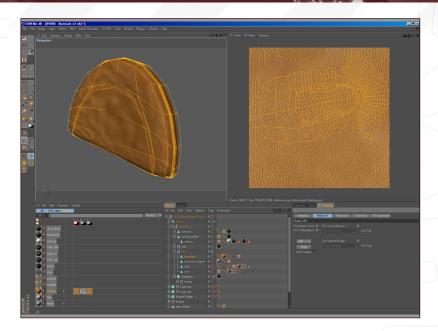


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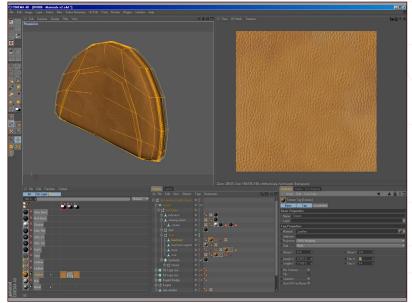
You should have a nice unwrapped UV in the texture viewport. Un-tick the pin boxes and apply relax again to smooth out the UVs even more (Fig.07).

Fig 07



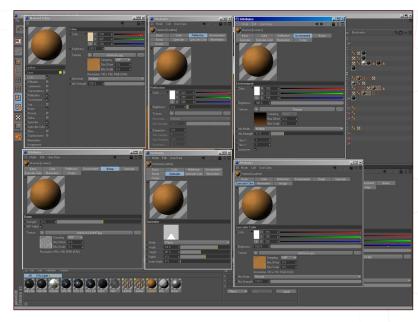
Now you can either make a very large texture jpeg, or as I've done you can tile the material to minimise the pattern to the right proportions (Fig.08).

Fig 08



Here are the entire material attributes for the leather seats. The blue highlight in each manager denotes which attribute it is displaying (Fig.09).

Fig 09



#### BUGATTI VEYRON The Materials & Finishes

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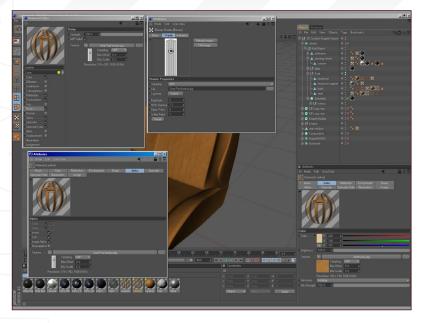


Fig 10

I have used the same method of unwrapping the UVs as the headrest and I have added additional details. There are fine grooves and the Bugatti Veyron symbol on the back of the seat is in the same leather finish. I have created this by simply making a few lines in Photoshop and adding the emblem in the centre. You must add a little Gaussian blur to soften the bump map to make it look realistic. I have used the same texture in the alpha channel and applied the material with a flat projection. The material is a copy of the leather material with the additional bump and alpha channel amends (Fig.10).

The first of the control of the cont

Fig 11

Hopefully your seat should look something like this (Fig.11).

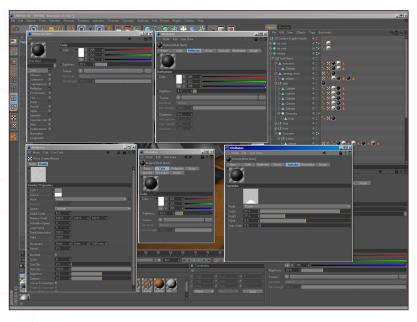
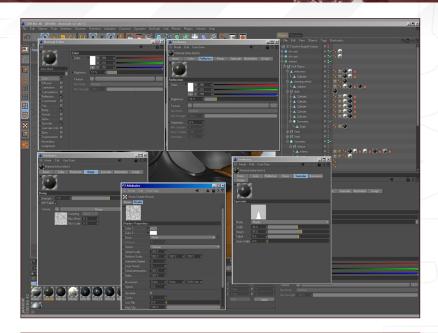


Fig 12

I've decided I want the dashboard and interior panels to be black premium leather, which I've referenced from a photograph of a Veyron. The Veyron has two different materials in the dash; one is soft and with low reflection and the other is glossy with a high reflection. Both are shown in Fig.12 and Fig.13.

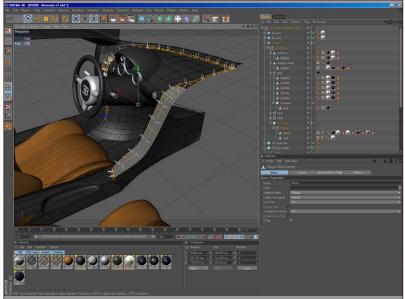


Fig 13

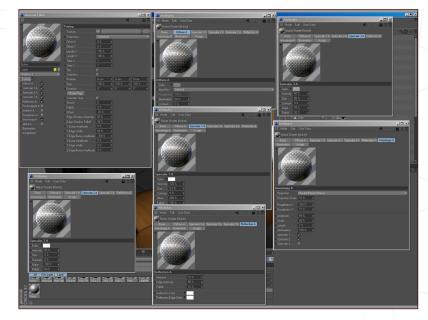


Apply the matt black to the interior then select the polygons shown and drag the shiny black material onto the polygons. This will give a great effect when animating as the light will reflect differently across the two materials (Fig.14).

Fig 14



In my haste I've forgotten to model the centre console (ah well, we all make mistakes). This is a good opportunity to try and model the console on your own. I will show you how to create the brushed pattern for the console by adding a new Nukei shader to the material manager. Once the material is created, add it to the console by set selecting the consoles polygons (Fig.15).



#### BUGATTI VEYRON The Materials & Finishes

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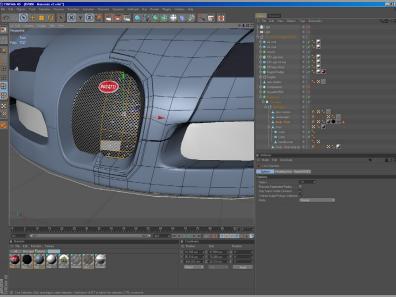


For the door I have simply set selected the matt leather and a newly created chrome material for the door latch. The chrome is a copy of the centre console material with the anisotropy turned off. I have used the same method for all of the chrome pieces on the steering wheel and vents (Fig.16).

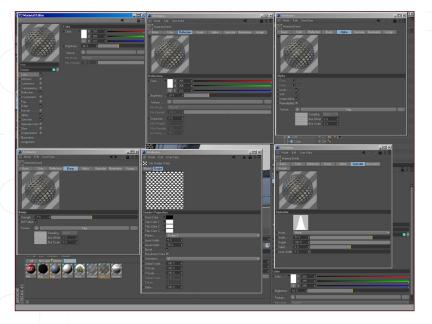
Fig 16

Fig 17

Fig 18



The interior is now complete so it's time to move on to the exterior. First I begin by set selecting the vents and adding the vent material. The vent material has an alpha channel so we will need to place a dark material beneath it, otherwise it will show the internals of the car. This dark material with the vent material above is used in every vent instance (Fig.17).



Here are the attributes of the vent material (Fig.18).



#### The Materials & Finishes BUGATTI VEYRON

The chrome surrounding the centre vent is simply set selected and applied with the chrome material shown (Fig.19 – Fig.20).

Fig 19

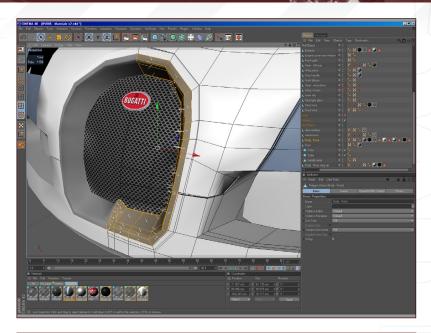
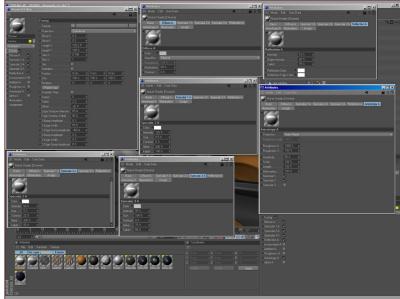
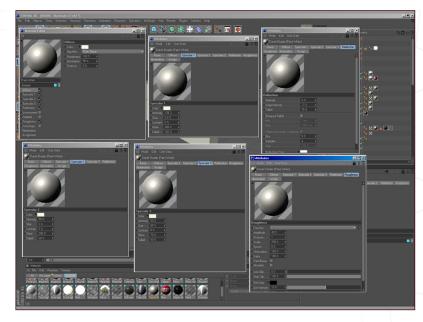


Fig 20



The car paint is one of the hardest things to replicate precisely; most people just use a soft specular level with a high amount of reflection, but the real world paint has fine flecks of metal which reflect the light. I have used a Danel shader with the following attributes. Always use off-whites and never 100% colour as in the real world these values are rarely seen and this is always a pitfall for beginner artists (**Fig.21**).



### BUGATTI VEYRON The Materials & Finishes

#### **3dcreative**

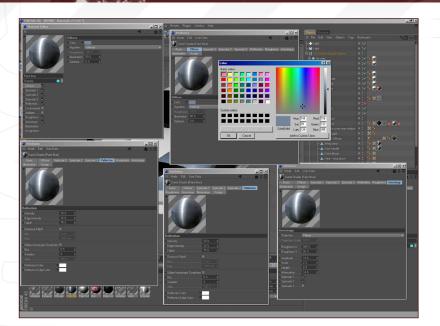
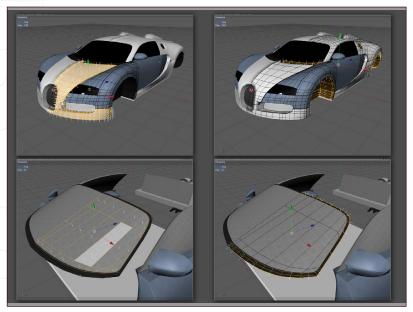


Fig 22

The blue paint is a copy of the white with obviously the colour changed. The colour was referenced from a photograph (Fig.22).



of set se

I assign the paint materials by the usual method of set selection, making sure I get all of the polygons and no distortion from missed polys. I add a simple dark material to the inner wheel arches and to the section below the windscreen. In addition, there is a black frame that runs around the windscreen; this can be made by selecting the polygons. Inner extrude until you have a border of polygons; delete the centre polygons and set point values to zero along the X-axis. Now set select the polygon loop and add the dark trim material (**Fig.23**).

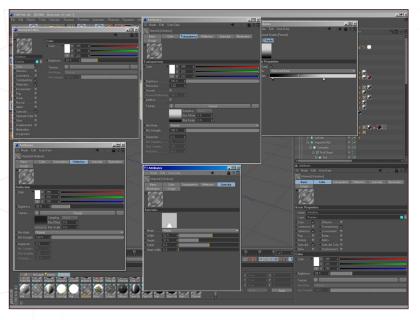


Fig 24

For the windows I have used a material with a fresnel in the transparency channel. This will allow the glass to cast a shadow, as would real glass. Attributes for the glass materials are shown (**Fig.24**).



#### The Materials & Finishes BUGATTI VEYRON

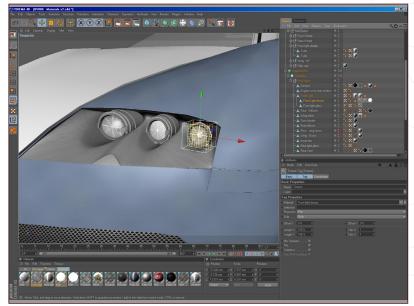
The front lights use the same glass material with some changes to the bump channel (Fig.25).

Fig 25



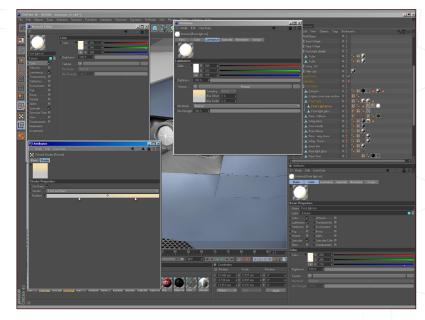
The materials for the front light lenses are simply flat projection mapped and the light housing has a chrome material applied. I tend to use several different tones of chrome/shiny metal as this gives a more realistic look (Fig.26).

Fig 26



For the centre light I want to try and show it illuminated. To do this I have added a material with a fresnel in the luminance channel.

Remember: if you use luminance it will affect the render if you use global illumination. You can switch off generate GI in the material if you don't want this to effect the render (Fig.27).





#### BUGATTI VEYRON The Materials & Finishes

#### **3dcreative**

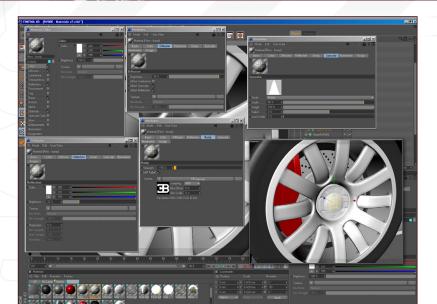


Fig 28

Now for the bling wheels and rims. I've used another instance of the shiny metal with some differences in colour and reflection for the rims. The logo is pillow embossed with a texture, with considerable blur to achieve the soft emboss. The base material is applied and the copy with the logo is applied over the top with a flat projection (Fig.28).



Fig 29

For the callipers I've gone for a bright, but simple, red material (Fig.29).

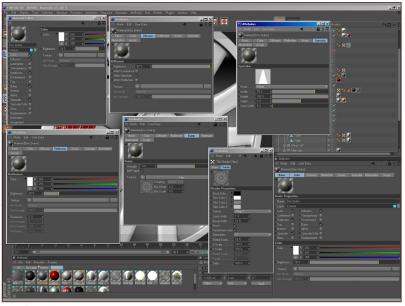


Fig 30

The brake disc will be difficult to see for 80% of the shots, but it's still worth investing the time in as a close-up might just show the lack of detail. The material attributes are as shown; the mapped projection is flat and fit to object (Fig.30).



#### The Materials & Finishes BUGATTI VEYRON

The Veyron uses Michelin pilot sports tyres and I've been lucky enough to stumble upon a high resolution texture for this exact tyre. I've used the graphic as a bump map on a material with soft specular levels to reproduce a rubber appearance. There are two rubber materials, a simple base, and the material with the bump map set selected to the sidewall of the tyre, as shown (**Fig.31**).

Fig 31

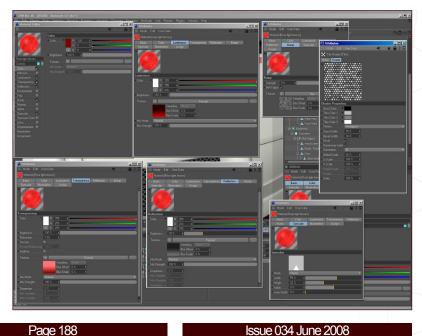


Here is how your wheels should look (Fig.32).

Fig 32



The rear light can be difficult as they are very intricate; I begin by applying the basic glass material to the rear light glass object and then hide it from the viewport. Now copy the glass material and give it a red appearance, as shown (Fig.33).



## BUGATTI VEYRON The Materials & Finishes

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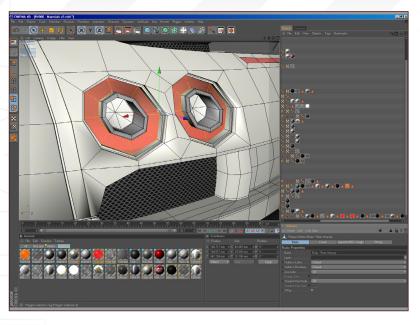
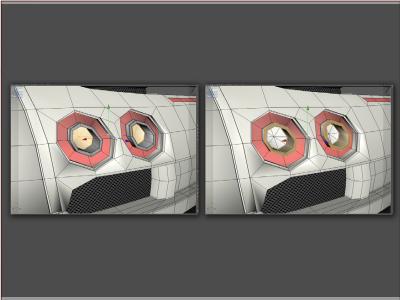
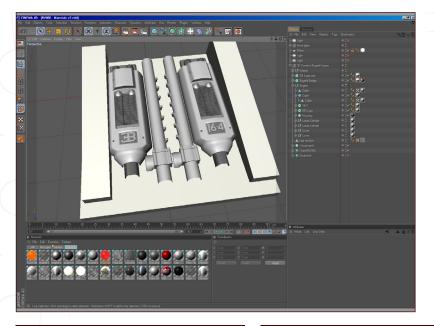


Fig 34 Now apply the red glass to the selected polygons (**Fig.34**).



Apply a glass material to the centre section and complete the lights by adding chrome to the centre ring (Fig.35).



For the engine I've used different shades of the chrome material and the white paint to give a realistic look (**Fig.36**).



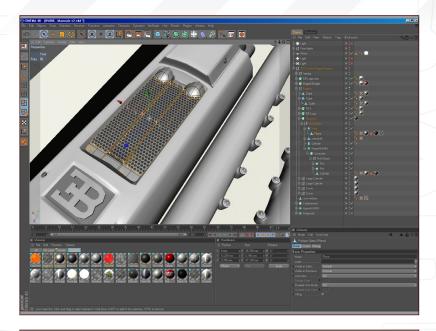
#### The Materials & Finishes BUGATTI VEYRON

#### **3dcreative**

For the engine vent I've used the same dark material as a base layer and the vent material above, making sure to restrict them to the set polygons. In this case I have changed the vent holes from the previous tiled version (**Fig.37**).

Fig 37

Fig 38



Your Bugatti Veyron should now be complete, minus the centre console if you haven't done it. You could possibly add windscreen wipers and other minor details to really push the realism (Fig.38 – Fig.39)!

That now completes the materials of the car and in the next issue we'll be covering how to add the Veyron to a backdrop and create a studio setup.

#### BUGATTI VEYRON PART 6: THE MATERIALS & FINISHES

Tutorial by:

#### **EMLYN DAVIES**

For more from this artist visit:

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Or contact them:

design\_em@mac.com



Fig 39





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# Bugatti Veyron car modelling series



The series will cover an in-depth and comprehensive guide to modelling the amazing Bugatti Veyron car, from start to finish. We will focus on the key techniques and stages involved in building the chassis, as well as details such as the windows, lights, vents, petrol caps, engine parts and so on. The series will then move on to creating the wheels, including tyres and hubcaps, before going on to building and incorporating an interior, namely the dashboard and seating. This will be followed by a section on creating and applying materials for the numerous parts of the car, such as the paint work, chrome, rubber and glass, before concluding with a tutorial devoted to setting the scene for a finished render. The final part will cover the importance of a good lighting rig and light parameters, as well as the importance of a camera and the integral part that the rendering settings play in showcasing the model for a portfolio.

This series aims to offer a comprehensive guide for creating a finished car to people who are new to this type of exercise, but is not suitable for beginners who are not familiar with using 3D software. The tutorials do not detail every single step of adding individual edge loops and vertices, but they do endeavour to outline each important stage and explain the crucial techniques necessary to following the exercise.

The schedule is as follows:

Issue 029 January 2008
MODELLING THE CHASSIS - BASICS

Issue 031 March 2008

MODELLING THE CHASSIS - DETAILS

Issue 032 April 2008 WHEELS, TYRES & RIMS

> Issue 033 May 2008 INTERIOR

Issue 034 June 2008
THE MATERIALS & FINISHES

Issue 035 July 2008 LIGHTING SET UP & RENDER

ENJOY ...



#### BUGATTI VEYRON Part 6: The Materials & Finishes

Hello and welcome to the sixth part of the Bugatti Veyron series. I hope you have enjoyed last month's issue with the 3 parts featured on modelling (Parts 3, 4 and 5). Since we are pretty much done with that now, we'll move on and assign surfaces and textures to the model. So, let's begin!

You'll probably find the text part of this month's tutorial a bit boring, but we'll go on and assign surfaces for each part. Our goal is to end up with as few surface names as possible, for the sake of simplicity. Let's start with the main body, which is divided into two areas with different colours. Select the polygons shown in the image, hit "Q" to bring up the Change Surface dialogue box, name it "Veyron-body", give it a reddish colour, and then hit OK (Fig.01).

Select the polygons of the other body work, as shown, and name them "Veyron-body2" in the Change Surface options. As you have probably noticed, I'm putting the name of the model in front of the surface name. This technique is quite handy if you have several car models in the same scene and you have a lot of the same surface names! (Fig.02)

Now select the glass parts and assign the surface name, "Veyron-glass", for them, as you've done for the previous two parts. As you can see, I'm not selecting the whole front windshield here because we have the shaded glass at the very front (**Fig.03**).

Fig 01

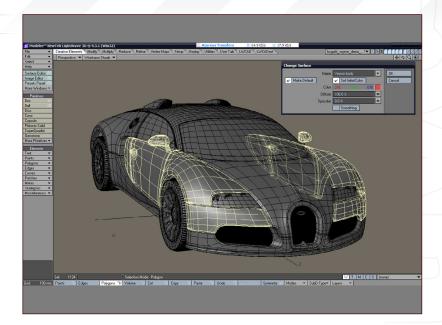
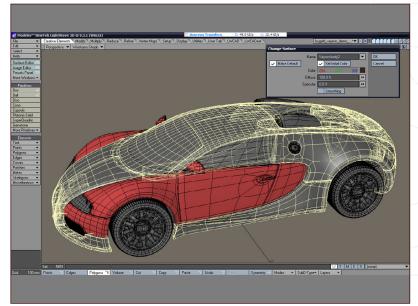
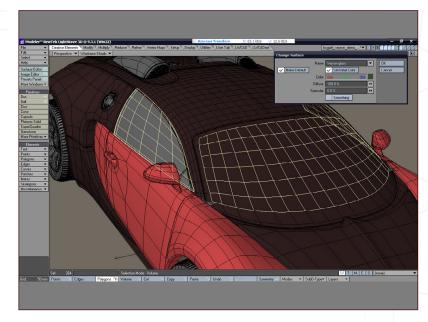


Fig 02





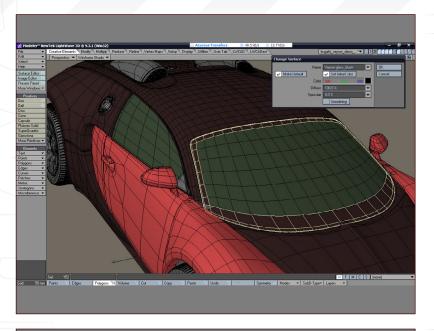
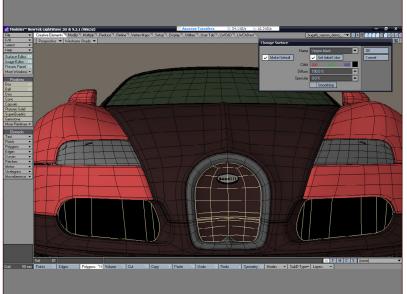
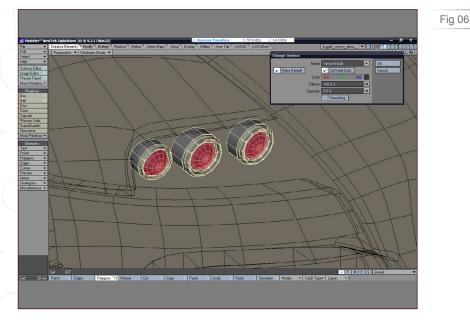


Fig 04 For the shaded part of the glass that I just mentioned, I have given the name "Veyronglass\_black" (Fig.04).



I initially named the front air duct holes simply as "black". Later on though, I figured that these parts were covered with a metallic grid which protects it from dirt and such. It is therefore a good idea to disregard the name shown in the image and name these parts "Veyron\_grid", or something similar (Fig.05).

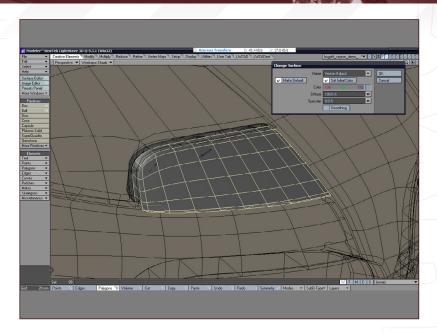
Fig 05



Select all the polygons in the image and name them "Veyron-fl\_bulb". Then select the inner polygons and name them "Veyron-fl\_lens" ("fl" stands for front lights) (Fig.06).

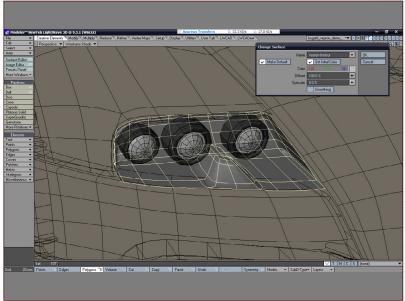
Select the front polygons and name them "Veyron-fl\_glass" (Fig.07).

Fig 07

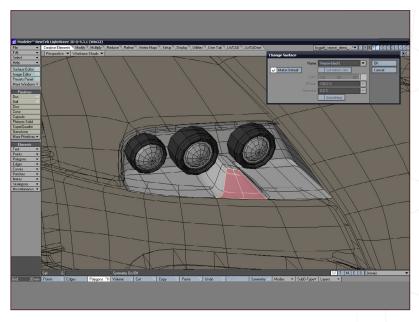


Select the inner polygons of the front light and name it "Veyron-fl\_mirror" (Fig.08).

Fig 08



Select the front polygons marked in the image and name them "Veyron-black". All the really dark areas in the model and holes will share the same surface (Fig.09).



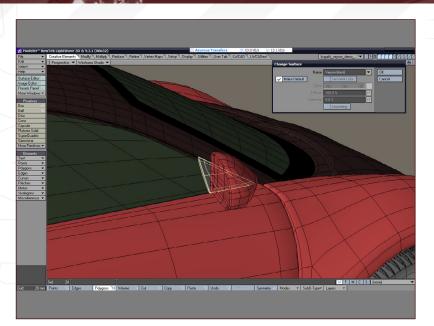


Fig 10 It's the same thing here: black polygons (Fig.10).

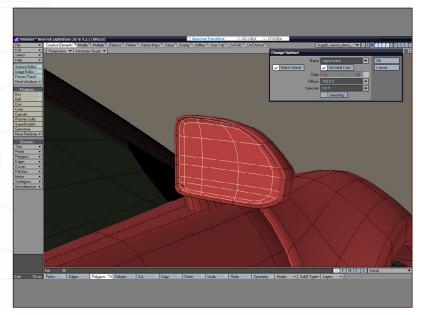
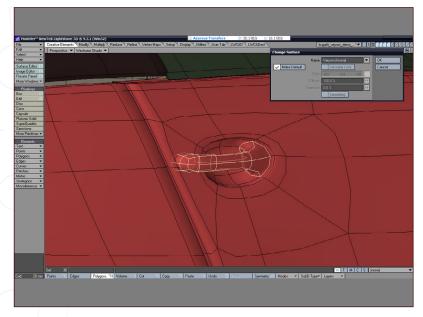


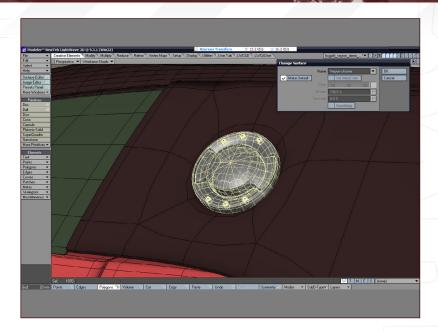
Fig 11 Select the mirror polygons and name them "Veyron-mirror" (Fig.11).



Door handles are usually metallic, so let's name our door handle "Veyron-chrome". All highly reflective surfaces will have the same chrome surface name. This will simplify things later on (Fig.12).

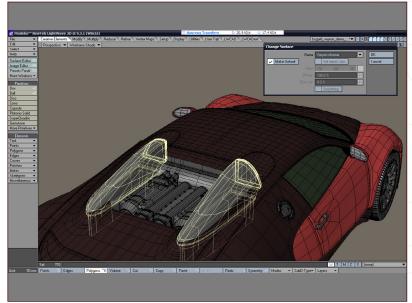
The fuel cap also has a "chrome" surface (Fig.13).

Fig 13

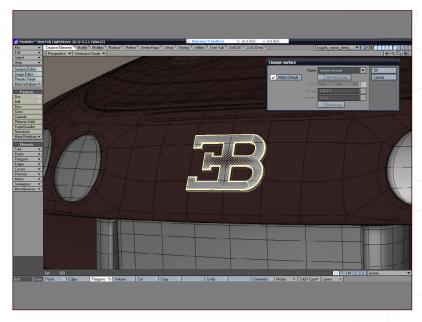


As do our rear air ducts (Fig.14).

Fig 14



And the logo at the back of the car (Fig.15).



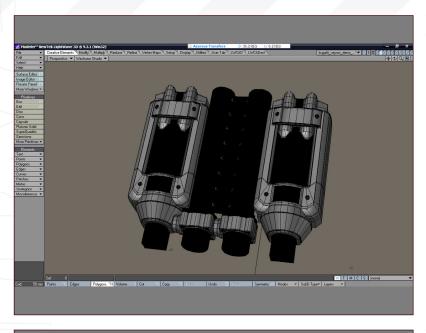
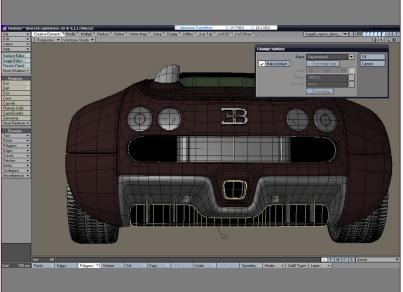


Fig 16

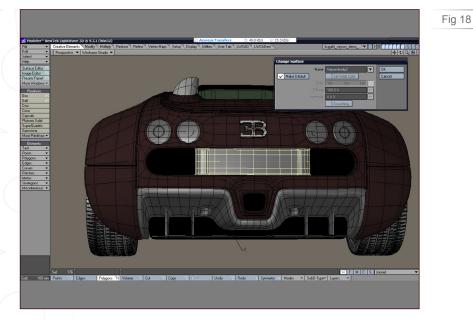
This image shows us which parts of the engine have a "chrome" surface and which have a "black" surface (Fig.16).



This image references the rear "black" polygons.

For these polygons I also decided to change them to a "grid" surface later on, but you can make them "grid" straight away (Fig.17).

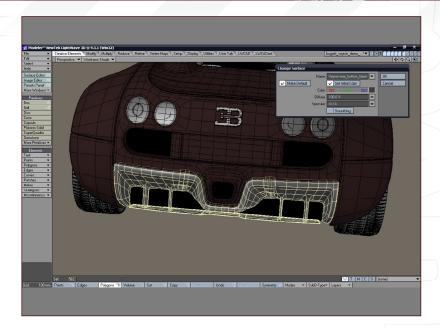
Fig 17



This rear plate holding part is also a "Veyron-body2" part (Fig.18).

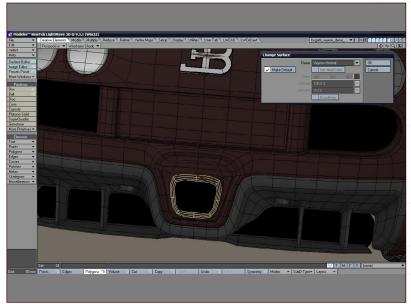
Name the bottom back part with an appropriate name, such as "Veyron\_bottom\_black" (Fig.19).

Fig 19

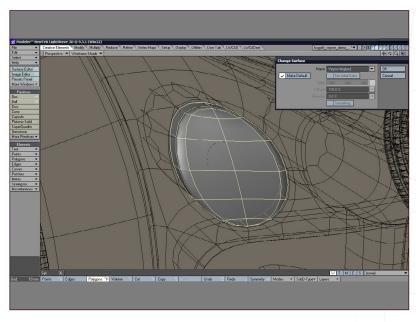


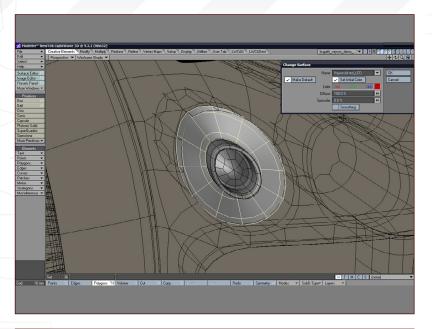
This part of the rear exhaust has a "chrome" surface (Fig.20).

Fig 20



Similar to the front lights, name the surface "Veyron-bl\_glass" (Fig.21).





This is the area covered by red LED lights ("Veyron-bl-red\_LED") (Fig.22).

Fig 22

Fig 24

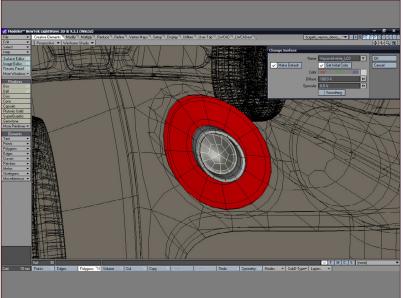
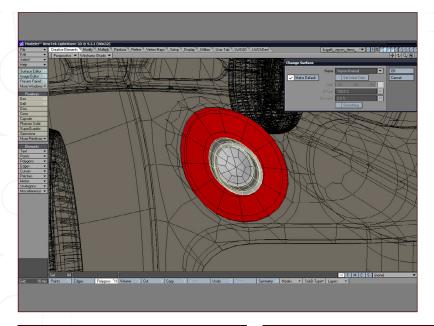


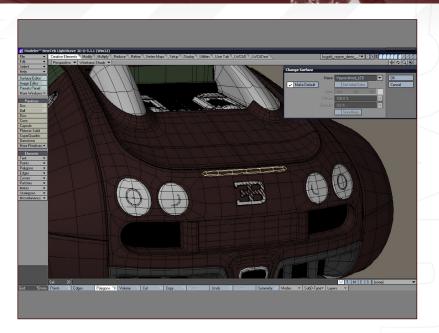
Fig 23 And white LEDs, too ("Veyron-bl-white\_LED") (Fig.23).



Finally, name the in-between polygons "Veyronfl\_mirror", as they are quite similar to them (Fig.24).

Give the third brake light the same red LED surface, as before (Fig.25).

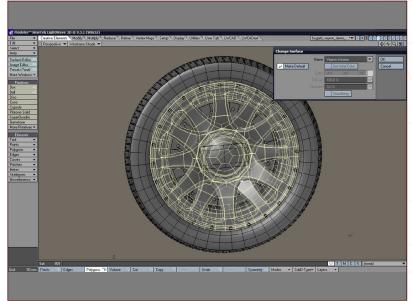
Fig 25



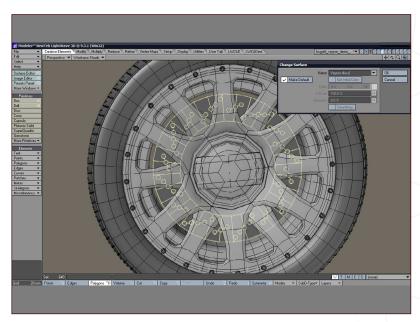
I initially named the rim polygons as "chrome".

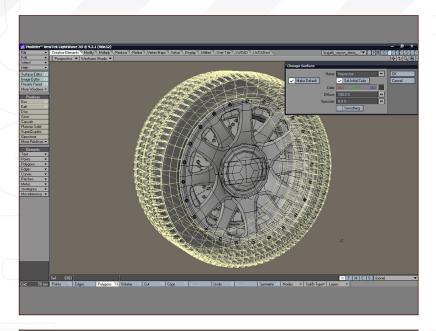
However, later on in the texturing phase
I figured that I wanted to have them less
reflectivity, so it wouldn't be a bad idea to name
them "rims" instead (Fig.26).

Fig 26



Name these polygons "Veyron-discs" (Fig.27).





Give the tyre polygons a name, also ("Veyrontyre") (Fig.28).

Fig 28

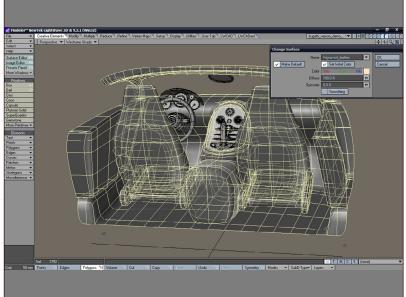
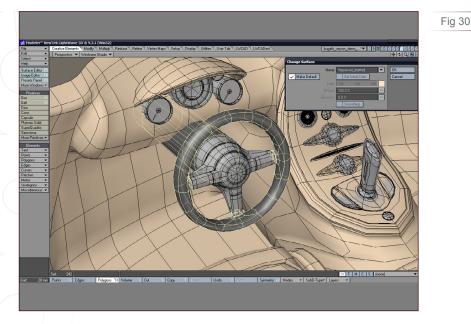


Fig 29 Select all the interior polygons and name them "Veyron-int\_leather" (Fig.29).

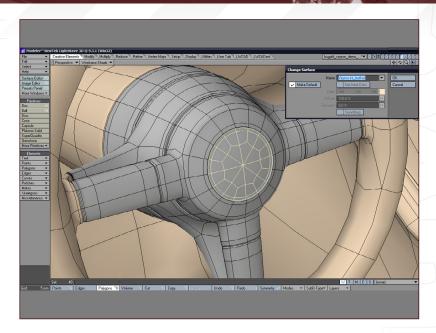


The steering wheel parts are also made of leather (Fig.30).

## The Materials & Finishes BUGATTI VEYRON

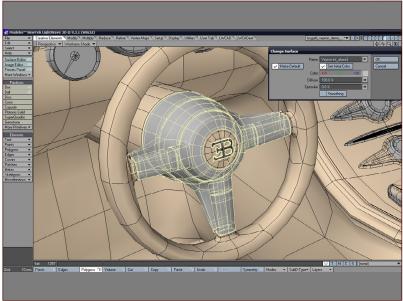
And this tiny bit, too (Fig.31).

Fig 31

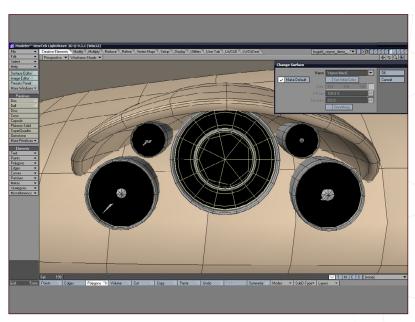


The logo and the support parts, though, are aluminium (Fig.32).

Fig 32



Name the black parts of the instruments ("Veyron-black") (Fig.33).



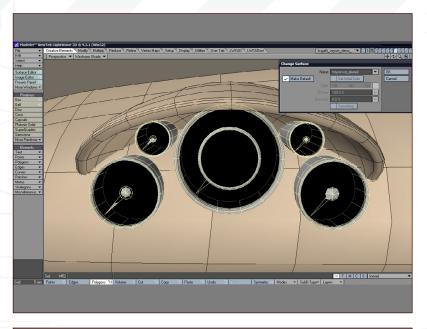


Fig 34 And the aluminium edges ("Veyron-alumin") (Fig.34).

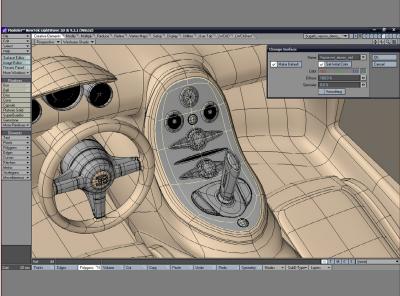


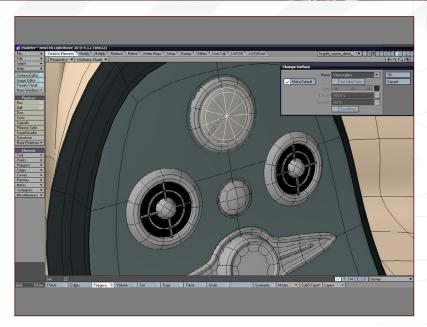
Fig 35 Name these polygons "Veyron-aluminum\_mid" (Fig.35).



And the surrounding ones "Veyron-aluminum rim" (Fig.36).

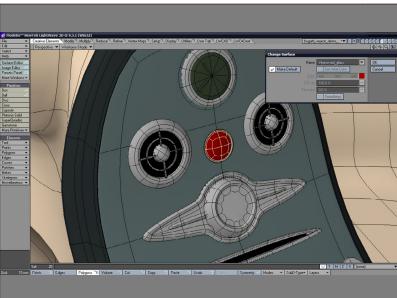
Assign the glass part of the clock (Fig.37).

Fig 37

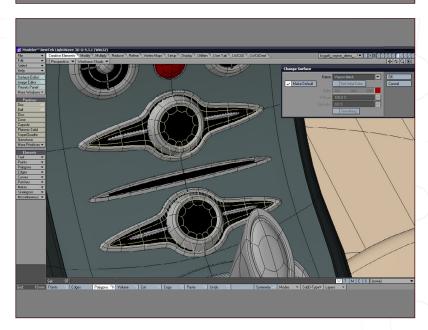


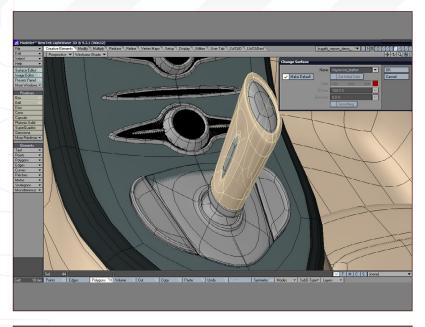
And the red glass one (Fig.38).

Fig 38



And the black parts of the entertainment system (Fig.39).





And the leather part of the gear shift ("Veyron-int\_leather") (Fig.40).

Fig 40

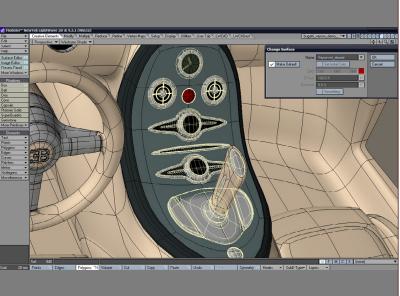
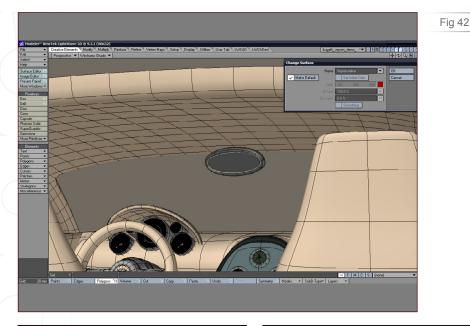


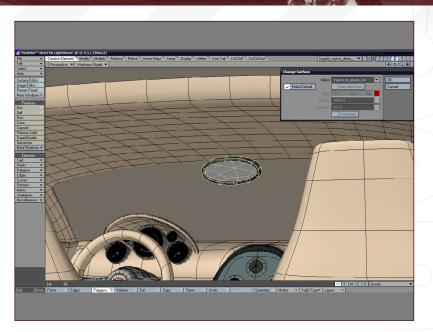
Fig 41 All the other bits are aluminium, as well (Fig.41).



We want a mirror surface for the mirror, here (Fig.42).

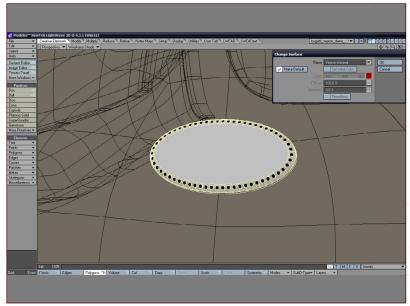
And an aluminium rim for the rim (Fig.43).

Fig 43

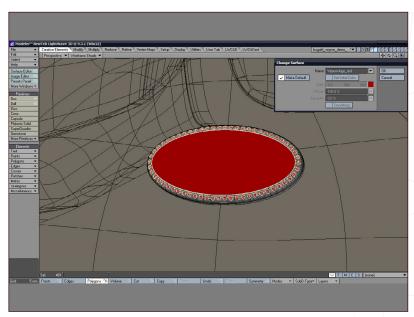


For the front logo we can use the "chrome" surface (Fig.44).

Fig 44



With red dots and the centre part (Fig.45).



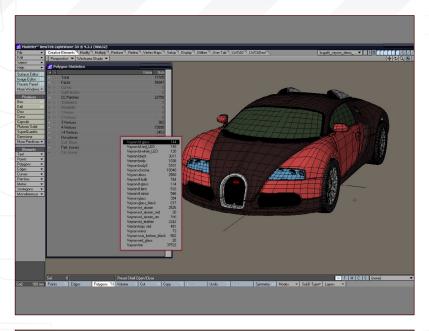


Fig 46 We end up with 23 surfaces (plus 2 for the grid and the rim). Not bad if you know how many parts there are! (Fig.46).

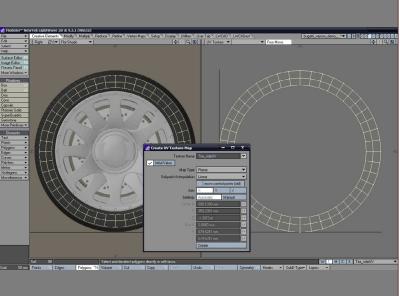
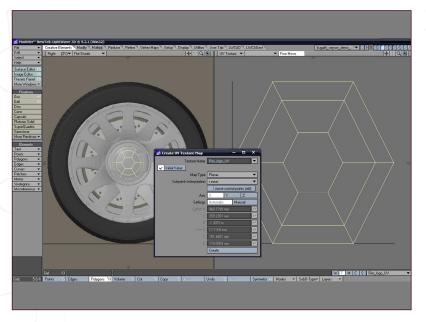


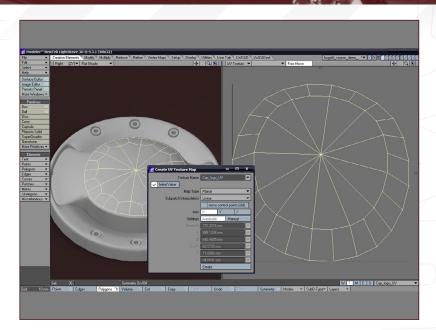
Fig 47 Assign the UV map for the tyre side (**Fig.47**).



And for the rim logo, too (Fig.48).

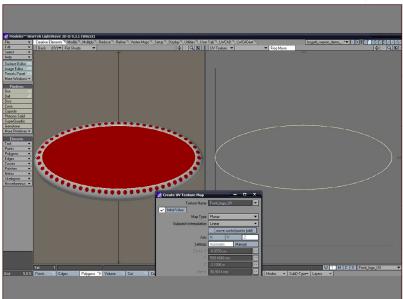
Do this for the fuel cap (Fig.49).

Fig 49



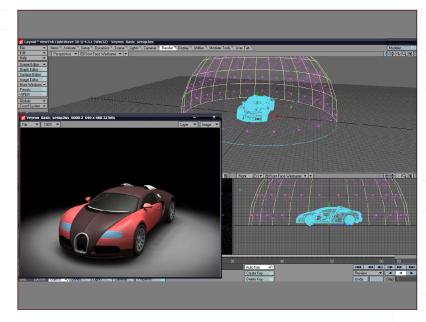
And the front logo, as well (Fig.50).

Fig 50



Load the model into Layout. For the texture testing purposes I made a simple scene consisting of ground polygons and the array of low intensity lights. This gives me nice, even lighting on all sides – and renders quite fast, too!

We don't want the scene to be too complicated or heavy to render when we assign surfaces. I also highly recommend Worleys Fprime plugin for realtime feedback. Also, it's quite handy to have a reflective image assigned as the backdrop (**Fig.51**).



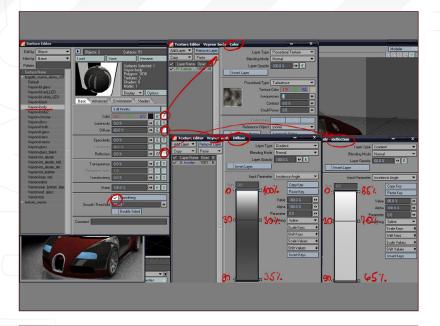


Fig 52

We'll start the texturing with the body surface now. The essential thing on reflective surfaces is to get the Fresnel effect right. This image shows the settings I typically use for reflective materials on diffuse and reflection channels. Add a small amount of noise to the body colour to break it up a bit (**Fig.52**).

Surface (Size

Ed by Date)

1 Objects 2 Contexts 5 Cont

Fig 53

Once you're done, copy the settings to the body2 surface and alter the colours (Fig.53).

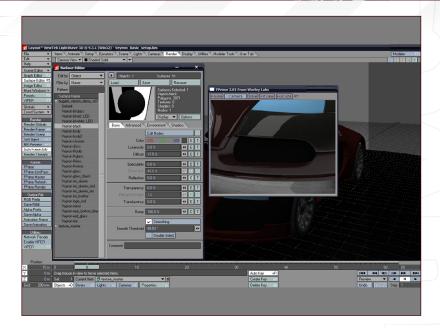


Fig 54

Copy these settings to the chrome surface and change the colour of it (**Fig.54**).

Give the black surface a deep grey colour and a low diffuse level (Fig.55).

Fig 55



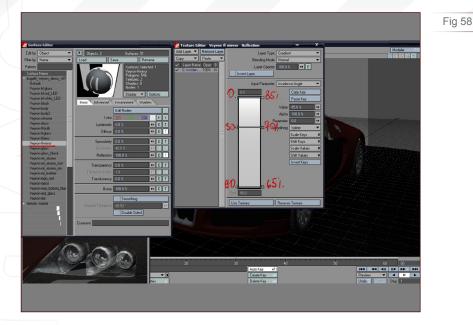
The front light glass has pretty much the same settings for transparency, following the Fresnel effect (Fig.56).

Fig 56



Here we have the settings for the front light lens surface (Fig.57).





The front light mirror is like a chrome surface with the reflection somewhat boosted (Fig.58).

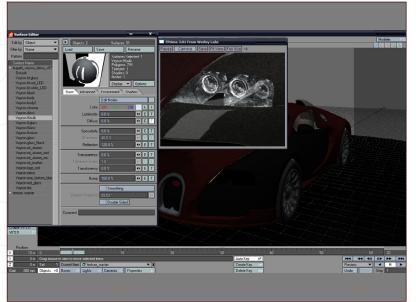


Fig 59

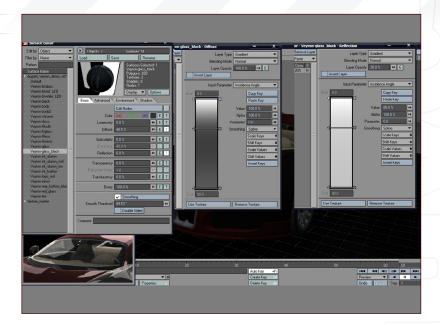
For the bulb surface I removed the gradient reflection and cranked up the reflection value to 120% (Fig.59).



This image shows the settings for the glass surface (Fig.60).

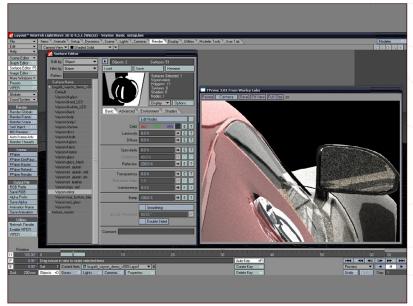
Glass\_black has the same settings, just without the transparency (Fig.61).

Fig 61



The mirror surface is without anything, except really high reflection (**Fig.62**).

Fig 62



The back light glass surface has the same settings as the front light glass (**Fig.63**).



## BUGATTI VEYRON The Materials & Finishes

#### **3dcreative**

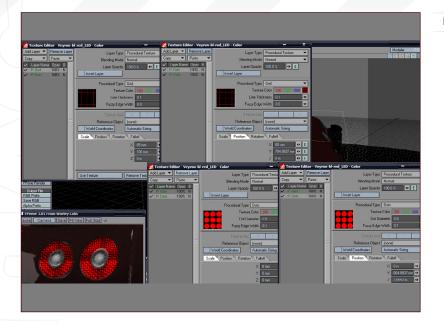


Fig 64

I used procedurals for the back light LED lights.
I made two procedurals, grid and dots, for the cross section and LED bulbs (Fig.64).

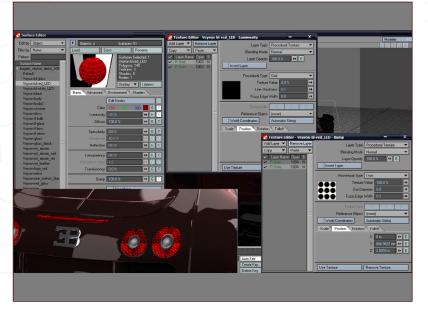
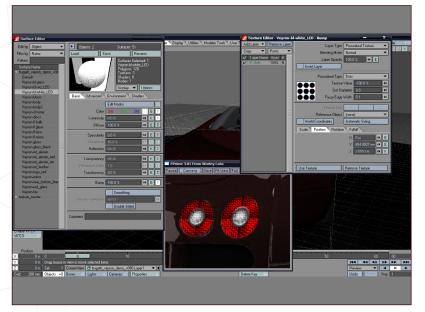


Fig 65

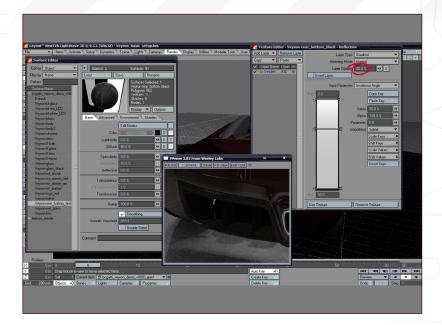
I applied them on the colour, luminosity and bump map channels (Fig.65).



Copy the same surface, remove the grid procedural and make it white for the inner LEDs (Fig.66).

The rear bottom black surface has the same settings with the reflection lowered (Fig.67).

Fig 67



For the interior leather I used quite simple settings, as we don't see any leather details (Fig.68).

Fig 68



Here we have our interior aluminium settings (Fig.69).



## BUGATTI VEYRON The Materials & Finishes

#### **3dcreative**



Fig 70 The middle aluminium part (**Fig.70**).



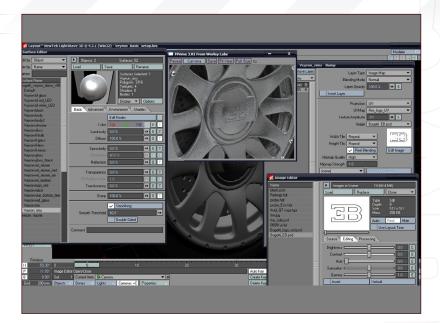
Fig 71 And the aluminium rim (**Fig.71**).



Here are our tyre surface settings (Fig.72).

And here is our rim surface with the EB logo applied on the colour and bump maps (Fig.73).

Fig 73



Here is our fuel cap with the logo (Fig.74).

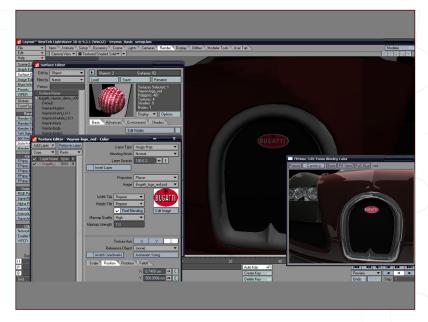
Fig 74



And the front logo.

Fig 75

I decided to use planar mapping instead of UV for the red Bugatti logo (Fig.75).



## **3dcreative**



Fig 76 Finally, for the front grid, I used the photo of the Veyron's metallic grid, made it tileable in Photoshop and then applied it as a colour

(Fig.76).



Fig 77

This finishes the surfacing and texturing part.

In the next (and last) part we are going to drive our Veyron out of the garage and into a decent environment. We'll tackle rendering passes and compositing in Photoshop. I hope you have

enjoyed this instalment! (Fig.77).



## BUGATTI VEYRON PART 6: THE MATERIALS & FINISHES

Tutorial by:

## VOJISLAV MILANOVIC

For more from this artist visit:

http://www.vojislavmilanovic.com/

Or contact them:

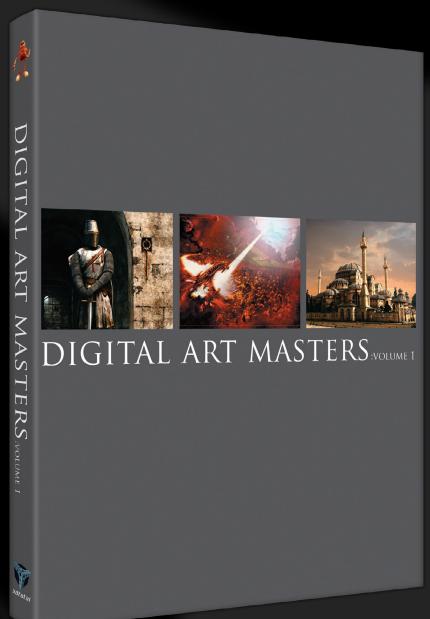
vojo@teol.net

# DIGITAL ART MASTERS

## : VOLUME 1

## INTRODUCTION:

THE 'DIGITAL ART MASTERS: VOLUME 1' BOOK, IS A COLLECTION OF WORK FROM ARTISTS WHICH HAVE FEATURED IN THE GALLERY OF 3DTOTAL. SPREAD OVER 192 PAGES, THE BOOK FEATURES SOME OF THE FINEST DIGITAL 2D AND 3D ARTWORK THAT YOU CAN SEE TODAY, FROM ARTIST AS NATASCHA ROEOESLI, PHILIP STRAUB, ROB CHANG, JESSE SANDIFER, PISONG, MENY HILSENRAD AND RYAN LIM AND MANY MORE. MORE THAN JUST ANY OTHER GALLERY BOOK, EACH ARTIST HAS WRITTEN A BREAKDOWN OVERVIEW. EACH WITH SUPPORTING IMAGERY OF HOW THEY MADE THERE PIECE OF WORK.



## THE FIRST BOOK IN THE "DIGITAL ART MASTERS" SERIES, CONTAINS WORK BY THE FOLLOWING ARTISTS:

André Holzmeister, Andrey Yamkovoy, Balazs Kiss, Cetin Tuker, Daniele Montella, d'Ettorre Olivier-Thomas, Donald Phan, Drazenka Kimpel, Egil Paulsen, Éric Wilkerson, Fabricio Micheli, Francisco Ferriz, Fred Bastide, Fredrik Alfredsson, Haure Sebastien, Jesse Sandifer, Jorge Adorni, Juan J. González, Juliano Castro, Khalid Abdulla Al-Muharraqi, Landis Fields, Laurent Gaumer, Laurent Ménabé, Li Suli, Linda Tso, Marcel Baumann, Marco Siegel, Mariska Vos, Meny, Hilsenrad, Natascha Roeoesli, Nicolas Richelet, Niels Sinke, Norbert Fuchs, Olli Sorjonen, Omar Sarmiento, Patrick Beaulieu, Philip Straub, Pisong, Richard Tilbury, Rob Adams, Robert Chang, Romain Côte, Ronnie Olsthoorn, Rudolf Herczog, Ryan Lim, Siku and Thierry Canon





# car modelling series



The series will cover an in-depth and comprehensive guide to modelling the amazing Bugatti Veyron car, from start to finish, and will focus on the key techniques and stages involved in building the chassis, as well as details such as the windows, lights, vents, petrol caps, engine parts and so on. We will then move on to creating the wheels, including tyres and hubcaps, before going on to building and incorporating an interior, namely the dashboard and seating. The series will proceed with a section on creating and applying materials for the numerous parts of the car, such as the paint work, chrome, rubber and glass, before concluding with a tutorial devoted to setting the scene for a finished render. The final part will cover the importance of a good lighting rig and light parameters, as well as the importance of a camera and the integral part that the rendering settings play in showcasing the model for a portfolio.

This series aims to show a comprehensive guide to creating a finished car for people new to this type of exercise, but is not suitable for beginners who are not familiar with using 3D software. The tutorials do not detail every single step of adding individual edge loops and vertices, but does endeavour to outline each important stage and explain the crucial techniques necessary to following the exercise.

The schedule is as follows:

Issue 029 January 2008
MODELLING THE CHASSIS - BASICS

Issue 031 March 2008
MODELLING THE CHASSIS - DETAILS

Issue 032 April 2008 WHEELS, TYRES & RIMS

> Issue 033 May 2008 INTERIOR

Issue 034 June 2008
THE MATERIALS & FINISHES

Issue 035 July 2008 LIGHTING SET UP & RENDER

ENJOY ...



## BUGATTI VEYRON PART 6: THE MATERIALS & FINISHES

Welcome to the materials and finishes section of this tutorial series. As with the modelling section, it is essential to gather proper references for the various materials that we are going to try to represent. There are a number of good reference sites that have high resolution images of cars. One of my personal favourites is <a href="https://www.seriouswheels.com">www.seriouswheels.com</a>. As always, first hand experience and observation is always the best and it is always a good exercise to examine real world materials and consider how they translate into CG materials. You will need to know how CG materials work and how the various properties can be adjusted to create an approximation of the real life equivalent.

In this tutorial we'll look at the principle materials or shaders that are commonly found on cars. We will create each of these shaders step by step and create a library of shaders that can be reused for future car projects. Although this section covers materials I will be touching on lighting at the start, as materials are useless on their own without some form of illumination to bring them to life. Lighting and materials work together to further model the car and communicate form. It is important to use light and materials appropriately to properly communicate the shape of the object you are rendering. A curved panel may seem completely flat if it is shaded and lit badly, and can result in the image being a failure. Materials obviously can confuse the shape and result in a poor understanding of the form.

Before starting out on a project such as this, it is very important to understand the purpose of the final image. Is it a design visualisation? Is it an advertising image? Is it a photomontage and needs to match other objects in the scene? Is it for animation? Each purpose may have a slightly different approach. Design visualisation

Fig 01

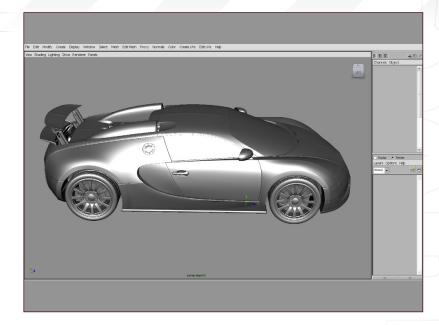
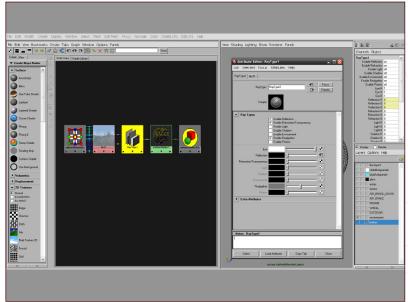
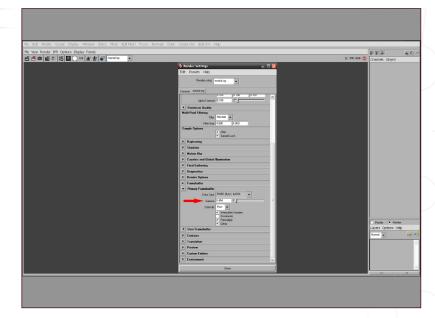


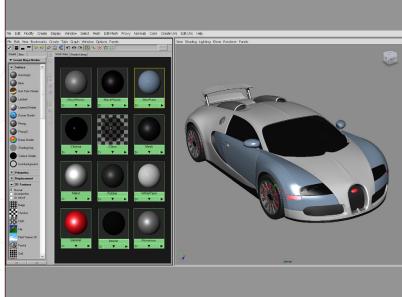
Fig 02





## **3dcreative**





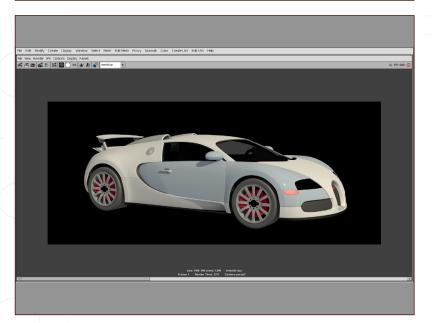


Fig 04 and adv

and advertising have vastly different requirements than a realistic photomontage.

Advertising images are often highly stylised and idealised renderings, while design visualisation has specific requirements for the communication of form and material properties while not being overly concerned with what CG artists regard as 'Photorealism'.

So with our references in hand, let's get started on the materials. The first step is to take the model and do a quick check on the surface integrity. The model here (Fig.01) is smoothed to a level of 2 on most principle surfaces, and a grey blinn shader has been applied to all surfaces. This will help us quickly identify any problem areas in the mesh.

Fig 05

Fig 06

The next step if to do a bit of "housekeeping". I like to divide the model up into major parts at this point and arrange each material on a separate layer. I will also separate the different colour body panels into separate layers, in this case. Before we go on to create each individual shader we will create a quick scene to illuminate and test our shaders as we go along. You can do this in any way you feel comfortable, but it helps that it relates to what you will be doing later with the lighting and rendering. This is how I typically setup a scene...

Create a sphere that comfortably encompasses the scene. Create a Maya Surface Shader (Fig.02). To the out colour slot add a MR raytype node. Raytype is a third party shader that allows you to use different images or colours for different rays. So you can use a high resolution HDRI for reflection rays and a low resolution blurred HDRI, or a simple colour, for final gather rays. Reflection and refraction are turned on and an HDRI is linked. Final gather is also turned on and a mid grey colour is selected. The shader is assigned to the sphere.

At this point we are going to setup the render settings for testing (**Fig.03**). I have already made a couple of decisions about the final rendering of this image. I know that I want the



The Materials & Finishes BUGATTI VEYRON

colour scheme of the car to be the white and metallic light blue and the car will be rendered in bright daylight, and I want a fairly realistic result. So with that in mind I am going to create a testing scene. One of the important decisions is to use a gamma of 2.2, or what is called 'Linear Workflow'. I am not going into the technicalities on this subject except for to say that the image will benefit from the additional range of midtones that you get from linear rendering. In the framebuffer tab of the render settings the gamma is set to 0.4545 (inverse of 2.2), in order for MR to produce an image in gamma 2.2. Final gather is turned on and left at default setting, except for scale which is set to about 0.6 to prevent the fill light becoming too washed out. Anitaliasing is set to -1 1 to balance quality with speed for testing.

We can add a simple spot light to the scene as a key light. The Intensity is set to .75 in this case and the colour is lightly warm (Fig.04).

To get started we can create a set of blinn shaders and name them according to the main materials in the scene. So we create two body paint shaders, a glass shader, metal (for the roof intakes, door handles, grill etc.), alloy wheel shader, rubber tyre, chrome, mesh, black plastic and a general shader for all the small parts. The shaders are assigned to the corresponding surfaces. The individual settings are not important now and this can be viewed as a sketch or layout for further development. The main idea is to have shaders assigned to everything so that very early in the process you can get a good idea of how the whole model is working with regards to colour scheme and material distribution. You don't need to worry about reflections initially, so we'll just start with them all off (Fig.05).

A quick render in our test environment shows a good starting point (Fig.06).

To get things started we are going to look firstly at the two paint shaders. The colour scheme, as I mentioned, will be gloss white and metallic

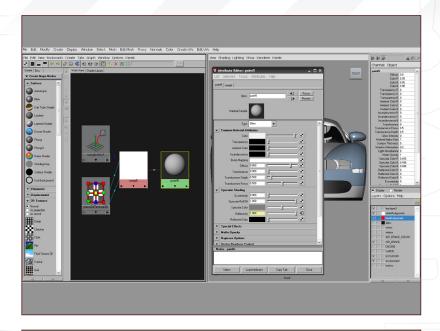
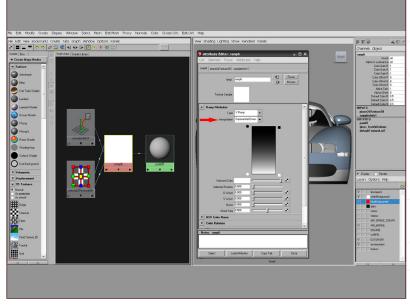
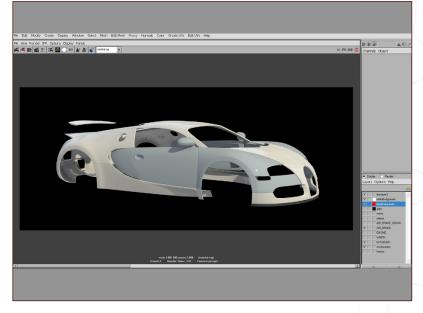


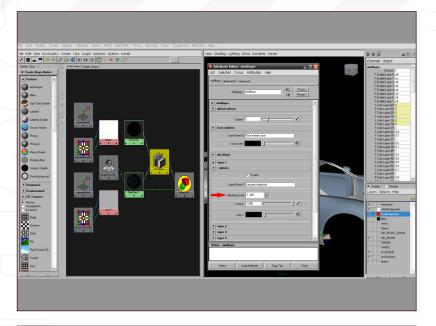
Fig 08

Fig 07





## **3dcreative**



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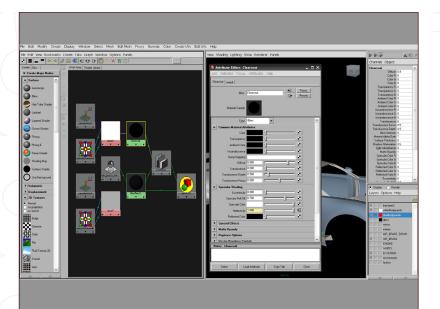


Fig 10

light blue. Let's start with the simpler of the two: the gloss white paint. In general, I tend to treat car paint as a layered shader because car paint is in fact layered. Even in non-metallic paint there is a base layer of colour with a clear coat or lacquer layer. However, with simple gloss paint this is not really necessary and a blinn shader will do just fine. MR has a built-in paint shader and also some great shaders that you can use equally well for this type of project, but to keep things simple I will be using mainly blinn shaders in this tutorial.

White paint is sometimes quite hard to get right because, when using traditional rendering methods (gamma 1), it gets burned out very easily. Using linear workflow and the extra midtone range it provides should result in a much more realistic and more controlled look. We start with the existing blinn already assigned to the white panels and set the properties, as in the image (Fig.07).

Then, to the reflection slot we add a black-to-white ramp. Change the ramp interpolation to exponential (Fig.08) to give a rough approximation of fresnel falloff. Create a sampler info node (you can find this in the Hypershade under Create Maya Nodes > General Utilities). Connect samplerinfo. facingRatio to ramp.vCoord. This adjusts the level of reflection based on the viewing angle. This is an old trick but we'll be reusing it throughout this tutorial so it's good to know it!

Fig 12

Fig 11

Note: I generally don't like the fake hotspot that the non-physical shaders such as Blinn produce, so I tend to turn the eccentricity down to 0 to remove that. The specular level and specular colour are then used to control the level of proper reflectivity.

This is how that shader looks rendered in our scene (Fig.09).

The blue paint is a little more complex as it is metallic. In order to achieve this look we are going to use a layered shader. We are going to



The Materials & Finishes BUGATTI VEYRON

build it as it would be applied to a real car, i.e. a metallic base coat and a lacquer clear coat layer on top. Since Maya's native layer shader is not suitable for using in Mental Ray, we'll use the Mix8Layer shader (third party shader by CTRL). Once the Mix8Layer node is created we connect it to the BluePaint shader. The connection is made to the 'material shader' slot of the BluePaint shader SG node, under the 'mental ray' tab.

The layered shader (**Fig.10**) consists of 2 separate shaders. The first gives the colour and glossy (blurry) reflection of the base layer, and the second gives the high gloss lacquered layer.

The base shader is the original Blinn shader (Fig.11) and it is connected to the Mix8Layer shader in the 'base colour' slot. As this is a metallic shader the diffuse colour is set to a fairly dark blue with low saturation. The look of the shader is primarily determined by the specular colour and glossy reflection. The Specular colour is, therefore, light blue. A ramp has been connected to the reflectivity to give a small amount of falloff to the shader. A value of 0.3 (front facing) and 0.6 (glancing) has been used here, and a sampler info node was added, as described above. An MIB\_glossy\_reflection node was added to reflection, and under raytrace options the reflection limit was changed to 0 (this prevents the shader adding its own raytraced reflection). The values changed were: reflection colour - 100% white, reflection base weight - 1, reflection edge weight - 0, samples - 16, and UV spread - 0.15.

The Clearcoat layer (**Fig.12**) is a Blinn shader with a black-to-white exponential ramp in the reflectivity slot. Because two reflections are being added on top of each other here, it is important to balance them so they are not too washed out. The level of reflection is controlled here using the specular falloff to avoid having to tweak the ramp. The Clearcoat shader is then connected to the Layered shader in the Layer 1 'colour 1' slot, and the blending mode is set to add.

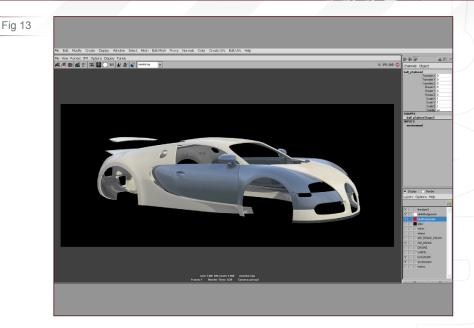
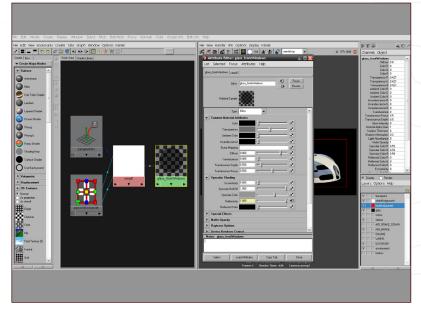
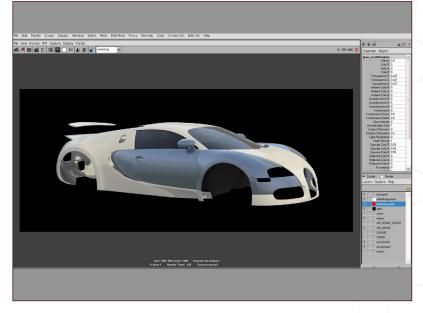
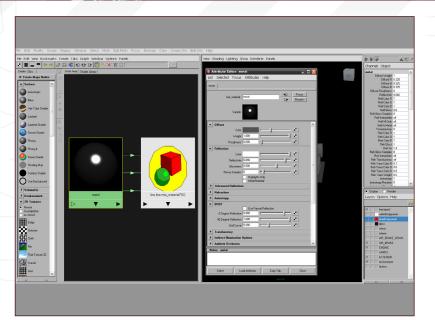


Fig 14





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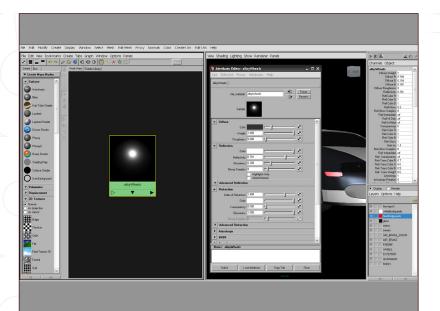


Fig 16

Fig 17

The render at this stage is a little noisy but sampling will be increased for the final render and will smooth out most of that noise (Fig.13).

The Glass shader (**Fig.14**) is the next big shader to do. There are a few options here, such as whether to use raytraced refraction, or perhaps an advanced shader such as Dieletric. But, as always, the simplest solution is the best. We start with the blinn shader that is already assigned. The transparency is set to about 30%, as Auto glass is generally tinted, but as a stylistic choice the interior of the car will be quite dark.

A black to white ramp with sampler info node is connected to the reflectivity slot to give a fresnel-like falloff. The interior has a dark grey lambert shader and that is usually sufficient (Fig.15).

Just for accuracy's sake, the ramp here will not give true fresnel falloff but will allow you to control the level of reflection to your own taste. There are fresnel nodes available and fresnel options in the MIA material if you require physical plausibility.

There are additional glass surfaces covering the lights. This glass would need to be much more transparent than the window glass so that we can duplicate it and set the transparency to be higher.

Fig 18

The engine intakes, fuel cap, door handle and front grill will have a highly polished aluminium material. For this shader the blinn is replaced with the new MIA material (**Fig.16**), which is very good for blurry reflections. The settings are as shown and the BRDP 0 deg reflection was changed to 1 so it has a uniform reflection. As is usual with all metal materials, the diffuse is low and the specular and reflection are the main contributors to the final look.

The chrome parts have a very simple chrome shader, which is a Blinn with diffuse colour of black (0) and a specular of 0.95, eccentricity of



## The Materials & Finishes BUGATTI VEYRON

## **3dcreative**

0, specular falloff of 1 and a reflectivity of .95. This is how the car looks with all the metal parts added (Fig.17).

For the alloy wheels an MIA shader is also used (Fig.18). Alloy wheels can be treated like car paint and can have a clear coat layer applied if needed. This can be useful if a close-up is required. In this case I want to have a more matt look, only a single MIA layer is used. The hubs have the metal shader from the intakes applied.

The tyres need a texture and I try to use photographic textures for tyres wherever possible. The same texture is used to add some bump mapping to the tyre (**Fig.19**).

As the tread detail is modelled (this is really the best method!) then there is no need to worry about displacements. The shader has a MIB\_glossy\_reflection node connected to the reflected colour (as described above). The reflection is set quite low and the UV spread of the glossy node is set to 0.25 with 2 samples initially (Fig.20).

The black plastic parts also have a MIA shader applied. The diffuse colour is set to 0.015 just to prevent it from looking pure black. The BRDP value for 0 deg reflection is set to 0.6 for some falloff. Under the advanced tab the specular balance is set to 0 to prevent any artificial highlight being added.

The shader for the mesh parts is a Blinn (Fig.21) and has one black and white texture map connected to transparency and specular colour. A duplicate of the same map is connected to bump mapping with a bump depth of 0.1 and a filter value of 3, to soften the edges. There is a falloff ramp (as above but values of 0.3 to 0.7 for the ramp colours) connected to reflectivity and a MIB\_glossy\_reflection connected to reflected colour. It's a good idea to reuse existing nodes for these connections if the values are the same, or similar.

Fig 19

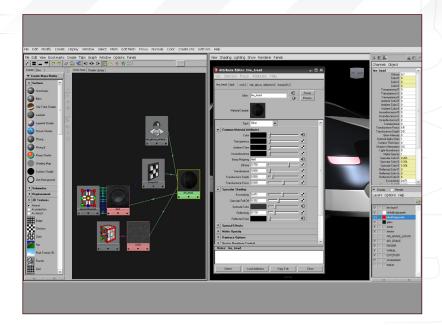
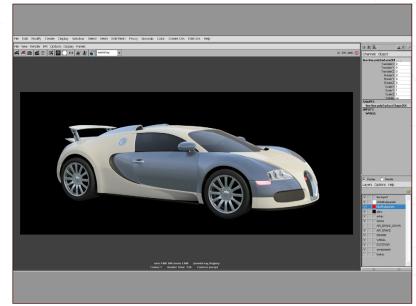
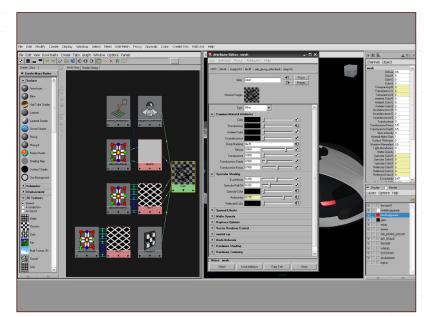


Fig 20





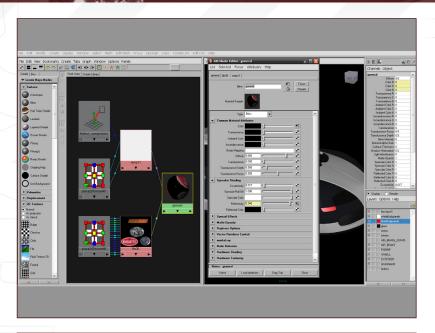


Fig 22

The final shader to set up is the general shader, which covers all the small parts such as indicators, badges, brake lights etc. This is a Blinn shader (Fig.22) ...



Fig 23 ...with a texture map for the various elements and a falloff map in reflectivity (Fig.23).



Fig 24

That wraps up the Materials section of this tutorial. Join me next time for a look at lighting and rendering (Fig.24).

BUGATTI VEYRON PART 6: THE MATERIALS & FINISHES

Tutorial by:

## **BRENDAN MCCAFFREY**

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Or contact them:

brendan@bmcaff.com

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# Bugatti Veyron car modelling series

## SOFTIMAGE° XS

The series will cover an in-depth and comprehensive guide to modelling the amazing Bugatti Veyron car, from start to finish, and will focus on the key techniques and stages involved in building the chassis, as well as details such as the windows, lights, vents, petrol caps, engine parts and so on. We will then move on to creating the wheels, including tyres and hubcaps, before going on to building and incorporating an interior, namely the dashboard and seating. The series will proceed with a section on creating and applying materials for the numerous parts of the car, such as the paint work, chrome, rubber and glass, before concluding with a tutorial devoted to setting the scene for a finished render. The final part will cover the importance of a good lighting rig and light parameters, as well as the importance of a camera and the integral part that the rendering settings play in showcasing the model for a portfolio.

This series aims to show a comprehensive guide to creating a finished car for people new to this type of exercise, but is not suitable for beginners who are not familiar with using 3D software. The tutorials do not detail every single step of adding individual edge loops and vertices, but does endeavour to outline each important stage and explain the crucial techniques necessary to following the exercise.

The schedule is as follows:

Issue 029 January 2008
MODELLING THE CHASSIS - BASICS

Issue 030 February 2008
MODELLING THE CHASSIS - DETAILS

Issue 031 March 2008 LIGHTS, RADIATOR GRILL & VENTS

> Issue 032 April 2008 WHEELS, TYRES & RIMS

> > Issue 033 May 2008 INTERIOR

Issue 034 June 2008 THE MATERIALS & FINISHES

Issue 035 July 2008 LIGHTING SET UP & RENDER

ENJOY ...



## The Materials & Finishes BUGATTI VEYRON

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## BUGATTI VEYRON PART 6: THE MATERIALS & FINISHES

Welcome to the sixth part of this car modelling series. This month, we'll take a look at how we create the UV Layout, Texturing and apply Basic Materials/Shaders to the car.

Let's start with the cooling grid. Hide any surfaces that we don't need for the time being (Fig.01).

After this, delete the surfaces that we don't need on the side, then make the UV layout. Add a YZ Layout to this (Model Module > Get > Property > Texture Projection). Do the same with the other parts (**Fig.02**).

Fig 01

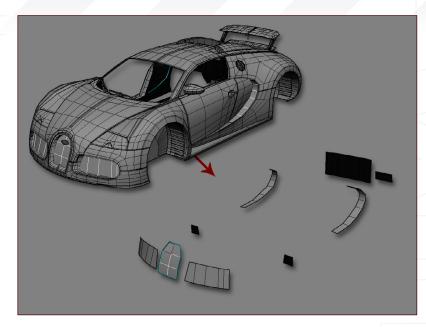
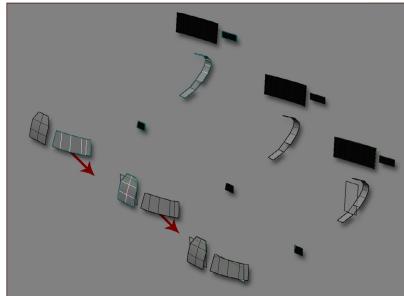
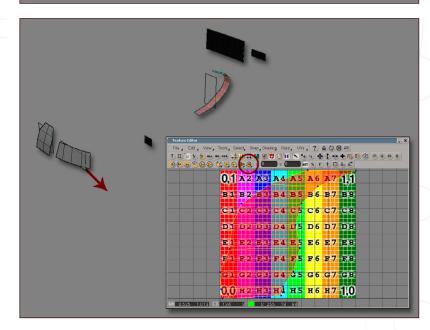


Fig 02



This Layout isn't perfect yet. Select all the polygons on one of the surfaces and then open the Texture Editor (Alt + 7 by default). Select the Walking on the Mesh tool out of the ContourStretch Subprojection (Fig.03).



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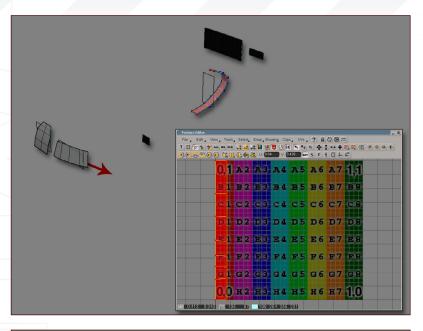


Fig 04

With the same tool, select the 4 corners of the surface and apply it with a right-click of the mouse (Fig.04). The Layout will be correct after this. Do the same with the other surfaces.

However, the Planar Subprojection/Best Fit tool

will be the most effective.

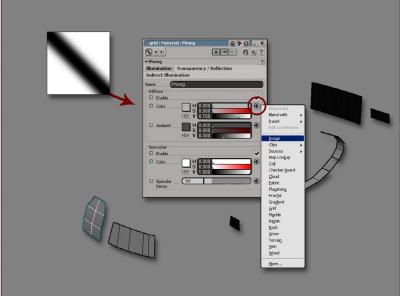
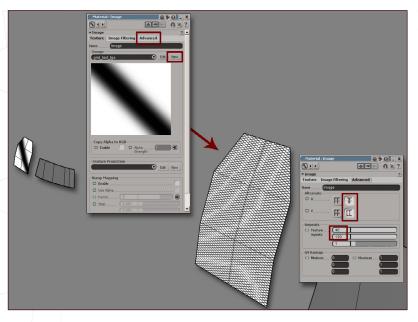


Fig 05

Let's now make this simple texture for the grid that can be seen on the picture. Select the first grid and add a new Phong material to it. Go to Model Module > Get Material and click the connector in the colour slot, and then select

Image (Fig.05).

Fig 06



In the window that appears, click on New (New from File) and add the texture that we made for the grid. In the settings of the viewport, switch on the Texture Decal so that we can see the texture in the viewport, too. Under the Advanced tab switch the Alternate U and V button to the right side so that, when making copies of the texture, it will be mirrored. In the Repeats section, set that to how many times you want to copy your texture and in what scale (Fig.06).

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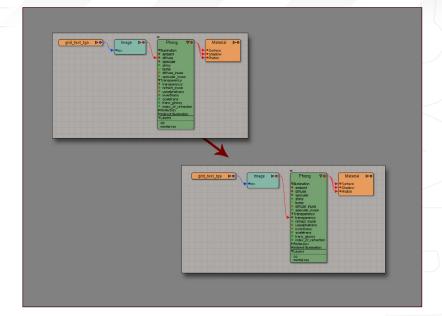
Issue 034 June 2008



## The Materials & Finishes BUGATTI VEYRON

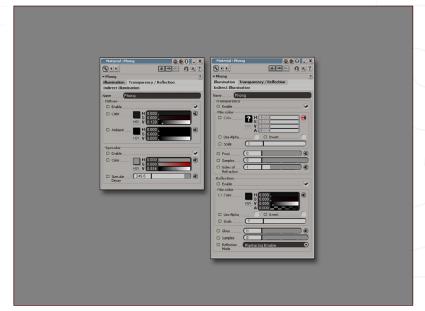
Now open the Render Tree to change the shader network (press 7 by default). Hold onto the red arrow that goes into the diffuse slot and connect it to the transparency (Fig.07). It will now become Transparent where it should be.

Fig 07

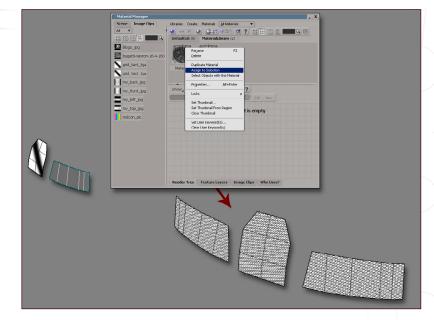


Click twice on the Phong and, on the appearing window's two tabs, set the parameters shown in the picture (**Fig.08**). These parameters decide the material type – this time the material type of the grid. These are highly dependent on the environment and the lights of course, so when setting the lights we might need to change it a little.

Fig 08



Add this material to every grid type surface. To do this, select the surfaces and open the Material Manager (Ctrl + 7 by default). Right-click on your mouse and, with Assign and Selection, add the material to the grids. After this will come the Symmetrize Polygons (Fig.09).



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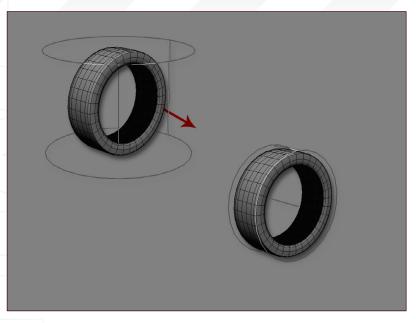
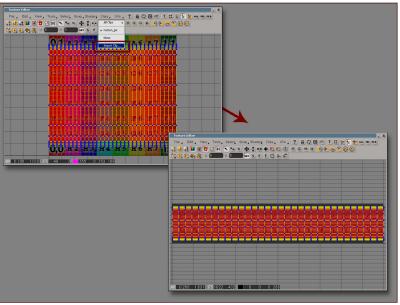


Fig 10

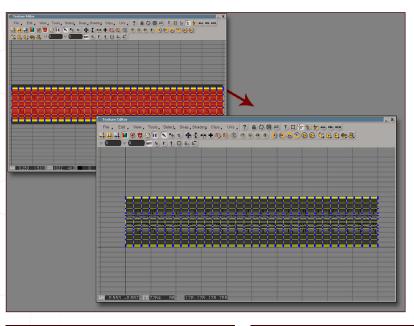
Next up is the tyre. Hide everything else and add Cylindrical Layout to it, and then adjust it with the help of scale and rotate (Fig.10).



Open the Texture Editor and, from the Clip menu, click on the Import Clip. In this menu add a tyre texture to the tyre. We can download some of these from the Internet or you can simply make your own (Fig.11).

Fig 11

Fig 12



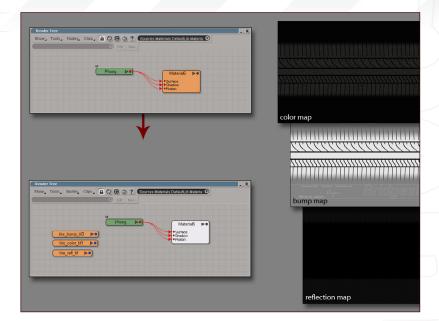
While adjusting the points in the Texture Editor, transform the texture's UV Layout into the right form (Fig.12). The Layout is ready with this.



## The Materials & Finishes BUGATTI VEYRON

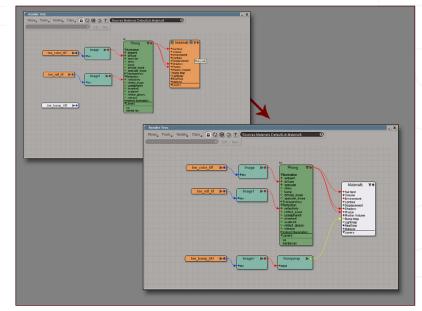
Add a Phong material type to it and open the Render Tree. Pull in the tyre texture(s) from a file browser. For me, it's built up from three parts: a Colour map which is responsible for the colours, a Bump map which is setting the roughness, and a Reflection map which gives a battered feeling for the material (Fig.13).

Fig 13

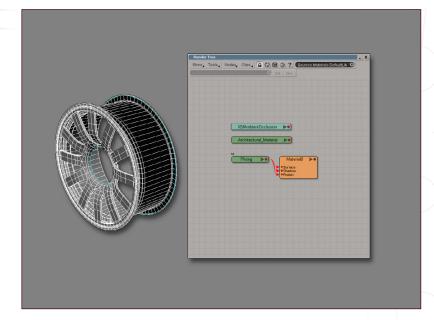


In the Render Tree, connect the colour map into the diffuse slot (hold onto the little blue point at the end of it and pull the end of the arrow onto the point of the diffuse), and pull the reflection map into the reflectivity slot. In the toolbar, under the Nodes/Bump menu, look for the Bumpmap node and click on it. Connect your bump map to the node bump slot here (Fig.14). Some parameters of the Phong material have to be adjusted to the light, just like the bump strength, etc.

Fig 14



You can add the texture and the material in the same way to the other surfaces. Let me show you how to make some of the main materials, starting with the Cap's material. Select the cap and add a Phong material type to it. Open the Render Tree. From the Nodes/Illuminaton menu, add an Architectural and an Ambient Occlusion node to it (Fig.15).



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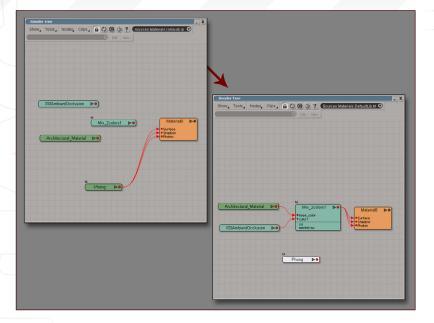


Fig 16

Add a Mix\_2colors node to it, too (Nodes/
Mixers), and then connect them as shown in the picture (Fig.16).

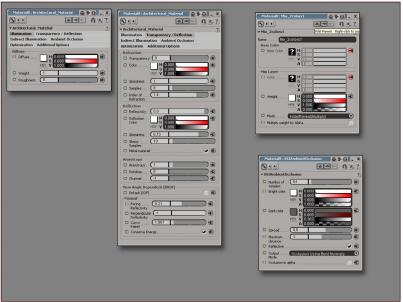
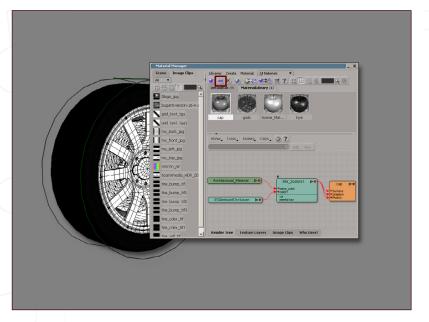


Fig 17

Double-click on the node to set the values seen in the image, and you're going to get a cap material like the one shown (Fig.17).



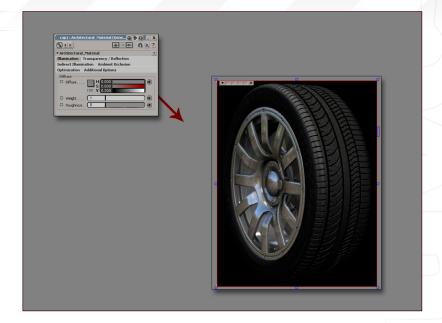
Add this cap material to every surface that has a similar material. For the break system we can use this cap material as well. Open the Material Manager, select the material of the cap and click on the Duplicate Material button (Fig.18).



## The Materials & Finishes BUGATTI VEYRON

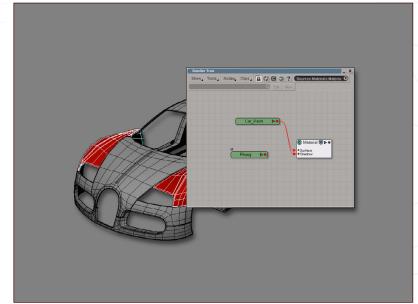
Double-click on the new material's Architectural node and set its colour a little darker. Setting the lights and the Render is going to be shown in the next part of the tutorial; however, I made a simple lighting rig so you can see the shaders here. Of course, this isn't the final version as it's going to need fine-tuning when the light settings are going to be finished (**Fig.19**).

Fig 19

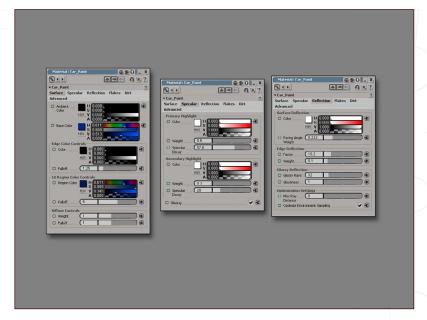


Next up is the Car Paint. The Veyron's body has 2 main colours, usually. Let's start with the metal-car-paint. Add a Phong material to one of the surfaces and replace it with Car Paint in the Render Tree (Nodes/Illumination) (Fig.20).

Fig 20



Set the values shown in the image for the Car Paint shader (Fig.21).



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Fig 22 Copy this material. You only need to change its colour and the 2nd metal-car-paint is finished for the other surfaces (Fig.22).

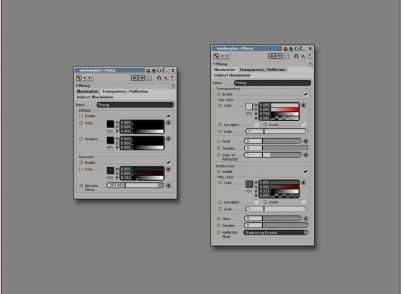
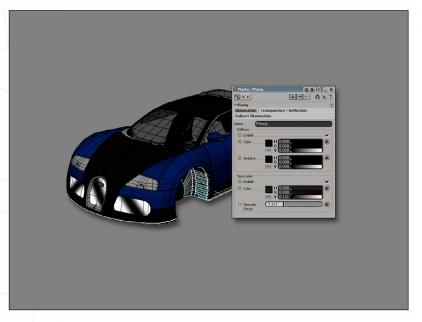


Fig 23

Let's make the glass material now. It's enough if you change the settings of a simple Phong material (Fig.23).



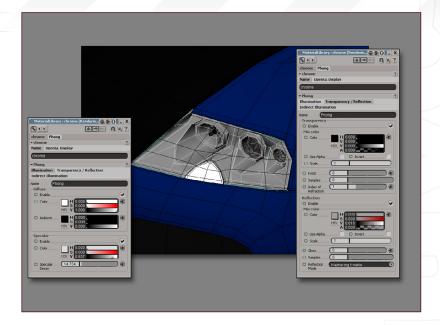
Set a plastic material, also (Fig.24).



The Materials & Finishes BUGATTI VEYRON

To get a simple Chrome material it's enough to use a Phong and the parameters shown in the image (**Fig.25**).

Fig 25



For the red brake lights, it's enough to use the glass material we made before, just simply change some settings (**Fig.26**).

Well, we have reached the end of the sixth episode (Fig.27). I hope I was able to show you the main levels of the Texturing process, UV Layout and Shading. Continuing from here you can make the materials for the other parts of the car and for the inner parts. Don't forget that the parameters will depend on the surrounding and the settings of the lights, so the best time for

I hope this part has been interesting and useful to you, once again. Next time, I will show you how to set up a simple lighting rig and rendering set up, with the final render.

fine-tuning is when these are done.

BUGATTI VEYRON PART 6: THE MATERIALS & FINISHES

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Fig 26

